SOME COMMON TASMANIAN SPIDERS

by

V. V. HICKMAN

CONTENTS

External features of spiders:

- Cephalothorax ... 6
- Eyes ... 6
- Chelicerae ... 6
- Pedipalpi ... 6
- Labium ... 8
- Sternum ... 8
- Legs ... 8
- Hairs or setae ... 8
- Abdomen ... 10
- Spinnerets ... 11

Life history ... 11

Classification ... 12

Key to families ... 13

Families:

- Ctenizidae ... 14
- Dipluridae ... 17
- Migidae ... 21
- Hypochilidae ... 26
- Dinopidae ... 29
- Dictynidae ... 31
- Dysderidae ... 37
- Segestriidae ... 39
- Pholcidae ... 41
- Theridiidae ... 44
- Mimetidae ... 50
- Linyphiidae ... 52
- Argiopidae ... 51
- Agelenidae ... 69
- Oxyopidae ... 75
- Lycosidae ... 78
- Pisauridae ... 81
- Salticidae ... 84
- Drassidae ... 89
- Clubionidae ... 94
- Sparassidae ... 99
- Thomisidae ... 105

Glossary ... 110

References ... 111

Index to species ... 112

Foreword

Many people are afraid of spiders. Although there are some which can be dangerous to man, the great majority are not only harmless but are in fact beneficial. Because they are predators of insects and other arthropods, spiders can be important factors in the biological control of many destructive pests. It has been clearly shown in recent years that many species of spiders play an important role in keeping down the populations of some orchard pests.

During his long career as Professor of Biology in the University of Tasmania, Professor V. V. Hickman contributed greatly to our knowledge of the spiders of Tasmania. Although there may be much more yet to be learned about this interesting group of invertebrates, his work forms a firm foundation for future research.

The Trustees of the Museum are deeply indebted to Professor Hickman for writing this booklet which will undoubtedly prove of interest to both laymen and zoologists.

L. W. MILLER.

September, 1967.

PREFACE

Like some of the other groups of Tasmanian invertebrates, the spiders have received little attention from zoologists. As a result many species have not been identified and numerous new forms not described. In a census of Australian spiders compiled by W. J. Rainbow in 1911 about 75 species are mentioned as occurring in this State. A catalogue of Tasmanian spiders by A. Musgrave in 1948 adds another 26, bringing the total to 101. It is probable, however, that more than a thousand species occur in this island and many years will elapse before they are all known.

At the present time about 71 families of living spiders are recognised and 39 of these are represented in our local fauna. The present booklet gives a brief account of the main external features and habits of a few common species selected from 22 of these families. The spiders chosen include those more frequently met with in houses and gardens, as well as some of those often seen during excursions in the bush. It should be mentioned, however, that only the larger known species have been considered. Many of our common spiders are very small and escape general notice. Others live in restricted habitats and are rarely seen. Others again are species which await identification and description.

In view of the fact that so many of our spiders have not been identified, it is not possible to provide satisfactory keys to species. However, a key to the families mentioned is provided and as the number of species selected from each family is small, identification should not be difficult. The family characters are based mainly on those adopted by the late Professor Petrunkevitch of Yale University.

In order to make clear the meaning of technical terms used in the descriptions, a brief account of the main external features of spiders is given at the beginning of the booklet and a glossary at the end. The descriptions are not in detail, but it is hoped that the characters mentioned, together with the aid of the text-figures and plates, will make identification possible.

EXTERNAL FEATURES OF SPIDERS

CEPHALOTHORAX

THE body of a spider is composed of two main regions. The anterior region is called the **cephalothorax** and the **posterior** region the abdomen. Between the two is a slender waist known as the pedicle (text-fig. 1-4).

The dorsal surface of the cephalothorax is covered by a single hard chitinous shield, the **carapace,** near the middle of which there is usually a small depression or pit, the **thoracic fovea.** From this pit four pairs of shallow furrows extend in a radial manner to the margin. The anterior pair of furrows outline the limits between head and thorax and are called **cervical grooves.**

The head part of the carapace bears the eyes. The region between the front row of eyes and the anterior margin is termed the **clypeus.**

THE EYES

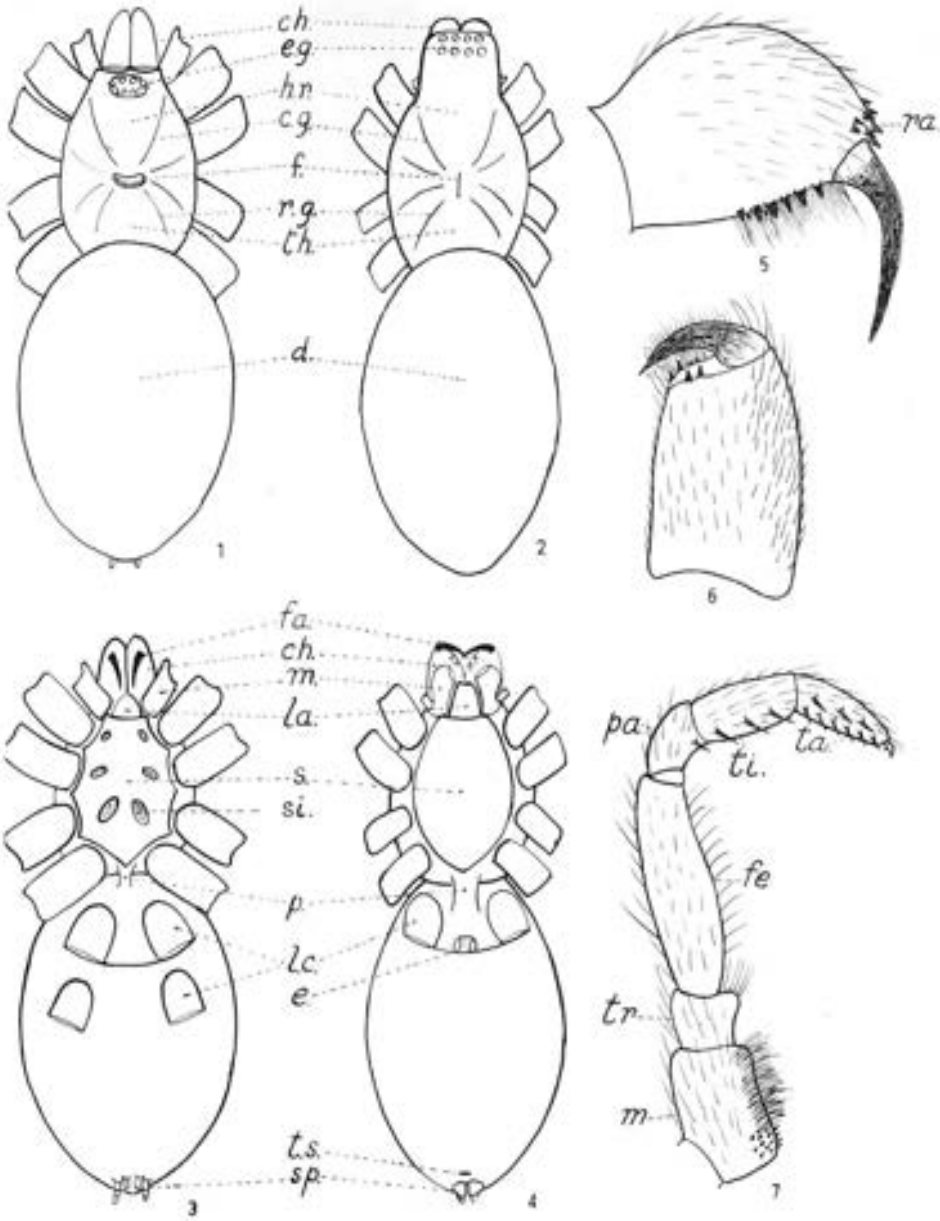
The eyes, generally eight in number, are usually disposed in two transverse rows of four, an anterior row and a posterior row. According to their positions the eyes are referred to as the **anterior median eyes** (AME) **posterior median eyes** (PME), **anterior lateral eyes** (ALE) and **posterior lateral eyes** (PLE). A line passing through the centres of the four eyes in a row may be straight or curved. If the convexity of the curve is backwards, the row is said to be **procurved,** if forwards **recurved.** If the eyes are all alike in colour they are described as being **homogeneous,** if they differ in colour, **heterogeneous.**

CHELICERAE

The **chelicerae** are the most anterior appendages of the cephalothorax. They are employed mainly in the capture and killing of prey and in defence. Each chelicera is composed of a stout basal segment and a slender curved apical segment or **fang** (text-fig. 5-6). Near the tip of the fang is the aperture of the duct from the poison gland. When at rest the fang is folded back into a furrow in the basal segment in much the same way as the blade of a penknife is folded into the handle. The furrow may have teeth on one or both margins and sometimes in the middle. In certain primitive spiders not found in Tasmania and also in mygalomorph spiders (Trap-door and Funnel-web spiders) the fangs move up and down in a plane more or less parallel with the longitudinal plane of symmetry of the body and the chelicerae are said to be **paraxial** (text-fig. 5). In all other spiders the fangs move in and out in a plane transverse to the longitudinal plane of symmetry of the body and the chelicerae are said to be **diaxial** (text-fig. 6). In some Trap-door spiders the basal segment of each chelicera has a group of short stout spines immediately above the base of the fang. These spines are used in excavating the burrow and constitute the **rastellum** (text-fig. 5).

PEDIPALPI

The **pedipalpi** or **palps** (text-fig. 7-8) are the second pair of appendages of the cephalothorax. They extend forward one on each side of the chelicerae. Each palp is composed of six segments, namely, **coxa, trochanter, femur, patella, tibia** and **tarsus.** The tarsus usually ends in a single claw. The coxa or basal



TEXT-FIGURES
1-7

Figs. 1 and 3.—Dorsal and ventral views of the body of a mygalomorph spider. Figs. 2 and 4.—Dorsal and ventral views of the body of a two-lunged spider. Fig. 5.—A paraxial chelicera. Fig. 6.—A diaxial chelicera. Fig. 7.—Palp of a mygalomorph spider (female).

Abbreviations: *c.g.* cervical groove, *ch.* chelicera, *d.* dorsum of abdomen, *e.* epigynum, *e.g.* eye group, *f.* fovea, *fa.* fang, *fe.* femur, *h.r.* head region, *la.* labium, *l.c.* lung-covers, *m.* maxilla, *p.* pedicle, *pa.* patella, *ra.* rastellum, *r.g.* radial groove, *s.* sternum, *si.* sigillum, *s.s.* spinnerets, *ta.* tarsus, *th.* thorax, *ti.* tibia, *tr.* trochanter, *t.s.* tracheal spiracle.

segment of the palp is generally called the **maxilla.** In mygalomorph spiders it resembles the coxa of a leg, but in true spiders it bears a plate or **endite,** which is used in crushing prey.

In female and immature male spiders the palps are leg-like. In mature males, however, the tarsal segment of the palp is often enlarged and modified to form an intromittent organ for the transmission of sperm to the reproductive system of the female during mating. The structure of the male palp is often very complex and is of great importance in the identification of species.

LABIUM

The **labium** or **lower lip** lies below the head region of the spider and between the basal segments of the pedipalpi. It varies in shape in different species but is often more or less conical or oval. In mygalomorph spiders it is sometimes armed with short blunt spines termed **cuspules.** In most cases the labium is freely movable but in some it is immobile being fused to the sternum. (text-fig. 3-4).

STERNUM

Behind the labium is an oval or shield-shaped plate forming the greater part of the lower surface of the cephalothorax. This plate is called the **sternum.** It is sometimes marked with three pairs of shallow scar-like depressions known as **sigilla.** In some spiders the margin of the sternum is excavated to receive the bases of the coxae of the legs. (text-fig. 3-4).

LEGS

All spiders have four pairs of legs. In some cases the structure of the legs allows the spider to move sideways; such legs are said to be **laterigrade.** In other cases only forward or backward movement is possible and the legs are said to be **prograde.** Each leg has seven segments, namely, **coxa, trochanter, femur, patella, tibia, metatarsus** and **tarsus** (text-fig. 9). The tarsal segment ends in either two or three claws. If three claws are present, two form a pair of **superior** or **upper claws,** whilst the third, called the **inferior** or **lower claw,** lies below and between them. The lower claw is generally much smaller than the others. The claws may be smooth or toothed.

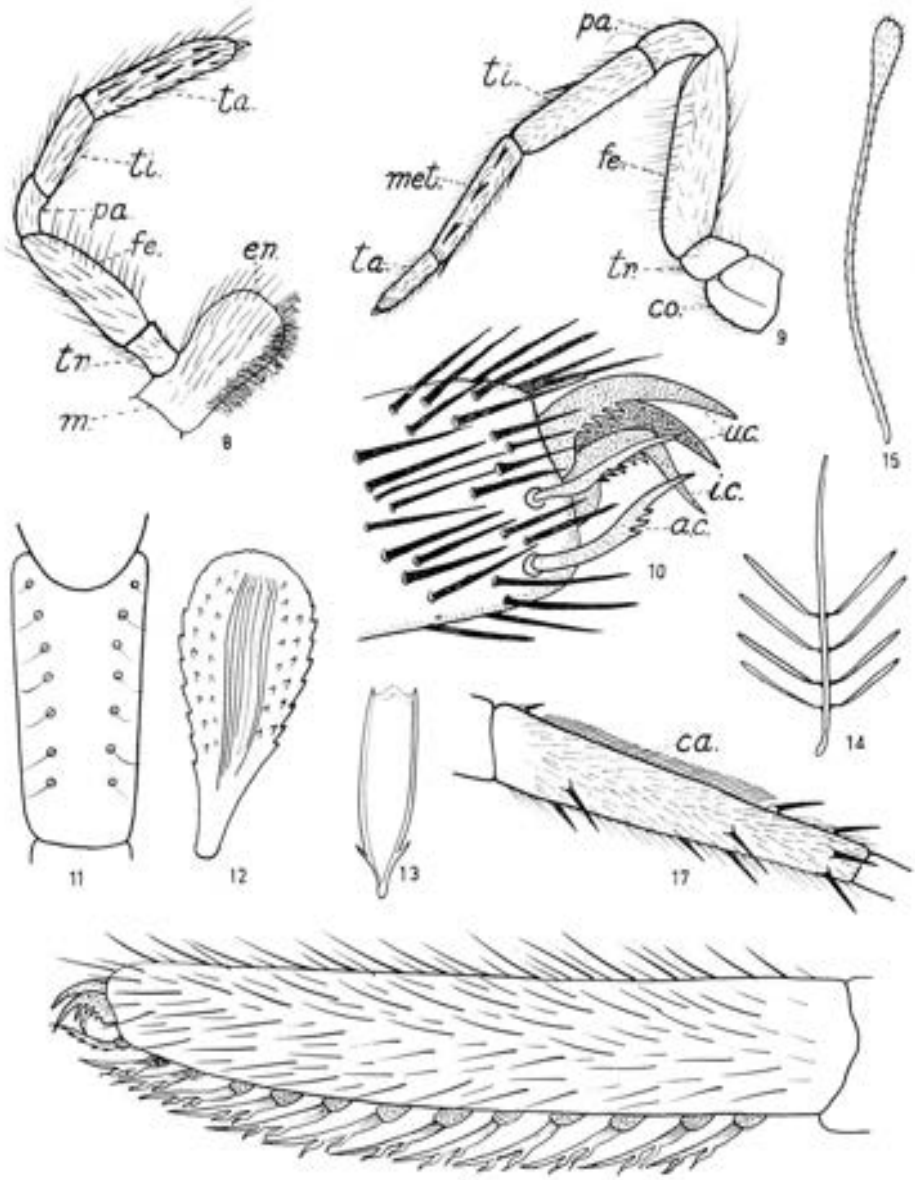
In addition to the true claws some spiders possess **spurious** or **accessory claws** in the form of stout serrate spines (text-fig. 10). These are frequently present in spiders that spin webs.

HAIRS OR SETAE

The **hairs** or **setae** on the legs and other parts of the body of spiders are of several different kinds and often serve different functions. Some are stout, rigid and sometimes capable of being erected. They are known as **spines** and appear to serve a defensive function. In some families the spines have a definite and characteristic arrangement.

Some hairs are very delicate, long and slender. They arise from small cup-like depressions on certain segments of the legs and palpi. They are termed **trichobothria** (text-fig. 11) and are thought to be receptors of sound waves, thus serving an auditory function.

The hairs forming the general covering of the integument are mainly sensory. They may be simple, plumose, clavate or scale-like in form (text-fig. 12-14).



TEXT-FIGURES
8-17

Fig. 8.—Palp of a two-lunged spider (female). Fig. 9.—Leg. Fig. 10.—Tarsal claws. Fig. 11.—Trichobothria on tibia of *Anamae pera*. Fig. 12.—Clavate hair. Fig. 13.—Scale-like hair. Fig. 14.—Plumose hair. Fig. 15.—Tenent hair. Fig. 16.—Comb below fourth tarsus of *Latrodectus hasselti*. Fig. 17.—Calamistrum on fourth metatarsus of *Ixeuticus robustus*.

Abbreviations: *ac.* accessory or spurious claws, *ca.* calamistrum, *co.* coxa, *en.* endite or maxillary lobe, *fe.* femur, *ic.* lower claw, *m.* maxilla, *met.* metatarsus, *pa.* patella, *ta.* tarsus, *ti.* tibia, *tr.* trochanter, *uc.* upper claws.

A dense brush of hairs on the chelicerae, maxillae or legs is termed a **scopula.** In some spiders a very dense scopula occurs below the tarsi of the legs and pedipalpi. The hairs composing this tarsal scopula are known as **tenent hairs.** They are usually expanded at the end (text-fig. 15) and are

adhesive, enabling the spider to cling to a smooth surface, such as a window pane or the side of a glass specimen tube.

In the family Theridiidae (Comb-footed spiders) the tarsus of the fourth pair of legs has a ventral row of strong, curved and toothed setae (text-fig. 16). This structure, from which the family gets its common name, is used for flinging silk over the struggling victim in the capture of prey.

Spiders which possess the spinning organ known as a cribellum also have a single or double row of curved hairs on the dorsal surface of the hind metatarsi (text-fig. 17). These hairs constitute the **calamistrum** and are used in spinning the very characteristic web made by cribellate spiders.

ABDOMEN

In the majority of spiders the **abdomen** is more or less elongate and rounded, but there are many remarkable variations from this rounded form. In most species the abdomen is quite soft. In some, however, the integument is leather-like or sclerotized.

The ventral surface immediately behind the pedicle is often more densely chitinized and more convex than elsewhere. This region is termed the **epigastrium.** It is separated from the rest of the ventral surface by a transverse groove, the **epigastric furrow.** In the middle of this furrow is the opening of the reproductive system. Mature female spiders often have a small chitinous plate associated with the reproductive aperture. This plate is called the **epigynum.** It is often complex and shows considerable variation in form. In distinguishing the females of many species, a careful study of the epigynum is of the greatest importance.

The position of the first pair of lungs is generally indicated by two chitinous plates or lung-covers, one on each side of the epigastrium (text-fig. 3-4). The openings leading into the lungs are known as **lung-slits** and occur one at each end of the epigastric furrow. In most spiders only one pair of lungs is present. However, Trap-door Spiders, Funnel-web Spiders and the Tasmanian Cave Spider all possess a second pair of lungs. The chitinous plates which cover the second pair of lungs lie behind the epigastric furrow and the corresponding lung-slits are situated on the posterior margin of the plates.

Spiders which have only one pair of lungs are said to be **dipneumone.** They generally possess additional respiratory organs in the form of **tracheae.** These are tube-like structures often confined to the abdomen but in some cases extending through the pedicle into the cephalothorax. The tracheae open to the exterior by apertures termed **tracheal spiracles.** In spiders belonging to the families Dysderidae and Segestriidae a pair of tracheal spiracles is present behind the lung-slits. In most cases, however, there is only a single tracheal spiracle, and this is situated close in front of the spinning organs (text-fig. 4). A few very small spiders breathe only by tracheal tubes and are devoid of lungs.

SPINNERETS

At or near the posterior end of the abdomen are found the spinning organs or **spinnerets.** These are small finger-like structures, usually six in number and arranged in anterior, median and posterior pairs. They often form a compact group in which the small median pair are concealed.

Certain families of spiders also possess an additional spinning organ known as a **cribellum** (text-fig. 45). This is situated immediately in front of the spinnerets. It has the form of a small transverse plate, and in some cases is divided in the mid line by a slight ridge. The plate is perforated by numerous minute pores. A large number of fine threads of silk pass out through the pores during spinning and are combed into a wide band by means of the calamistrum on the metatarsus of the hind legs. The webs of cribellate spiders are readily recognised by their peculiar texture and bluish appearance. The web made by the ordinary black house spider, **Ixeuticus robustus,** is a good example.

LIFE HISTORY

All spiders lay eggs and are therefore said to be oviparous. The eggs are enclosed in an egg-sac or egg-case made of silk. The form of the egg-case varies. It may be spherical as in the case of the Bird-dung Spider, **Celaenia excavata,** and the Red Back Spider, **Latrodectus hasselti;** pyriform in the Cave Spider, **Hickmania troglodytes;** lenticular in the Black House Spider **Ixeuticus robustus;** or fusiform as in the Tailed Spider, **Arachnura higginsi.** However, egg-sacs of many other shapes occur. The silk immediately surrounding the eggs is usually soft and fluffy but that forming the outer covering of the egg-case is sometimes tough and parchment-like. Silks of two or three different colours are used by some spiders in constructing their egg-sacs and the sacs are often rendered inconspicuous by the attachment of leaves or bits of debris from the surroundings.

The number of eggs contained in an egg-sac varies. In certain very small spiders only a single egg may be enclosed in the sac. The egg-case of the Red Back Spider, **Latrodectus hasselti,** may contain from 40 to 300 eggs, and the one spider may make five egg-sacs in a season. The Huntsman Spider, **Delena cancerides,** encloses from 80 to over 200 eggs in its egg-case, whilst the number of eggs counted in an egg-case made by **Paraplectanoides crassipes** was 1,032.

The time taken for the eggs to hatch varies in different species and also with the temperature. In many spiders eggs laid in the Spring hatch in from five to seven weeks. The young, however, do not immediately leave the egg-sac. On hatching they are in a very immature condition and capable of little movement. They often remain in the egg-sac for several weeks before emerging. In many instances the mother abandons the egg-sac as soon as it is made, and when the young are ready to emerge they have to make their own escape by biting holes in the wall of the sac. In other cases, notably the Huntsman Spider, **Delena cancerides,** and the Lynx Spider, **Oxyopes mundulus,** the mother remains with the egg-sac and tears it open when the young are ready to escape.

During the time the young are in the egg-sac they undergo two or three moults. They emerge as miniatures of the adult but continue to undergo ecdysis (moult) periodically until maturity is reached. At each moult there is an increase in growth. The number of moults varies in different species and even in the one species. Males as a rule undergo fewer moults than females. For example the males of **Delena cancerides** moult 10-11 times and the females 12-13 times before becoming adult. The length of time taken by the males to reach maturity varies from 387 to 762 days and by the females 486 to 1,197 days, the observations being based on a study of 44 males and 41 females bred from eggs in the one egg-sac.

Few records have been made concerning the longevity of spiders. Field observations show that many species are seasonal and have a life-span of only one year. This is particularly the case with members of the family Argiopidae (Orb-weavers). On the other hand some spiders live for several years. The female of the familiar Huntsman Spider, **Delena cancerides,** as indicated above, may take over three years to reach maturity and there is little doubt that it could survive for another year or longer. Trap-door Spiders appear to have a longer life than others. An exotic species has been recorded as living in captivity for twenty years.

CLASSIFICATION

The classification adopted in the present booklet is based mainly on that used by Petrunkevitch (1955). Spiders constitute the arachnid Order Araneida. The order is divided into the following five Suborders:—

1. LIPHISTIINA. Spiders with paraxial chelicerae, four lungs and a segmented abdomen. Representatives occur in South East Asia, but up to the present have not been recorded from Australia.

2. THERAPHOSINA. Spiders with paraxial chelicerae, four lungs and a non-segmented abdomen. This Suborder includes the mygalomorph spiders known as trap-door and funnel-web spiders, and is well distributed in tropical and temperate regions throughout the world. About fifteen species have been recorded from Tasmania.

3. HYPOCHILINA. Spiders with diaxial chelicerae, four lungs and a non-segmented abdomen. The suborder is small but has representatives in America, China, New Zealand and Australia. It includes the Tasmanian Cave Spider.

4. DIPNEUMONINA. Spiders with diaxial chelicerae, two lungs, a non-segmented abdomen and one pair of tracheal tubes. The Suborder includes the large majority of spiders and is cosmopolitan in distribution. However, only about 85 species have been recorded from Tasmania.

5. APNEUMONINA. Spiders with diaxial chelicerae, non-segmented abdomen and one or two pairs of tracheal tubes in place of lungs, which are absent. The Suborder is represented in many parts of the world. It includes very small spiders, most of which live in moss, leaf-mould and forest debris. About eight species have been recorded from Tasmania but are not considered in the present publication.

The five Suborders defined above embrace about 81 families of spiders, ten of which are extinct and known only from fossils. Of the 71 families of living spiders, about 39 are represented in the Tasmanian fauna. However, some of the 39 families comprise species that are comparatively rare. Others contain only very small species, that are restricted to special habitats and therefore seldom seen. The spiders that are briefly described and illustrated in this booklet are ones that are frequently met with in the bush or in our homes and gardens. They belong to 22 different families, which may be distinguished by the following key.

KEY TO FAMILIES

1.	Four lungs present	2
	Two lungs present	5
2.	Chelicerae paraxial	3
	Chelicerae diaxial	HYPOCHILIDAE
3.	Rastellum present	CTENIZIDAE
	Rastellum absent	4
4.	Hind spinnerets long. Labium free	DIPLURIDAE
	Hind spinnerets short. Labium immobile	MIGIDAE
5.	Cribellum and calamistrum present at least in female	6
	Cribellum and calamistrum absent in both sexes	7
6.	Chelicerae without boss. PME very large	DINOPIDAE
	Chelicerae with boss. PME not unusually large	DICTYNIDAE
7.	A pair of tracheal spiracles behind lungs	8
	A single tracheal spiracle or none present	9
8.	Third pair of legs directed backwards	DYSDERIDAE
	Third pair of legs directed forwards	SEGESTRIIDAE
9.	Chelicerae fused at base	PHOLCIDAE
	Chelicerae free	10
10.	Three tarsal claws	11
	Two tarsal claws	18
11.	Fourth tarsi with a ventral comb	THERIDIIDAE
	Fourth tarsi without a comb	12
12.	Tarsi with spurious claws	13
	Tarsi without spurious claws	15
13.	First and second tibiae and metatarsi with a row of long spines separated by a row of short curved spines	MIMETIDAE
	Without such spines	14
14.	Chelicerae with stridulating ridges	LINYPHIIDAE
	Chelicerae without stridulating ridges	ARGIOPIDAE
15.	Tarsal trichobothria in a single row	AGELENIDAE
	Tarsal trichobothria in two rows	16
16.	Clypeus high. Posterior row of eyes procurved	OXYOPIDAE
	Clypeus low. Posterior row of eyes recurved	17
17.	Lower claw smooth or with one tooth. Hair simple	LYCOSIDAE
	Lower claw with two or three teeth. Hair plumose	PISAURIDAE
18.	Eyes in three distinct rows (4-2-2)	SALTICIDAE
	Eyes in two rows (4-4)	19
19.	Legs prograde	20
	Legs laterigrade	21
20.	Anterior spinnerets cylindrical and wide apart	DRASSIDAE
	Anterior spinnerets close together	CLUBIONIDAE
21.	Tarsi with scopula	SPARASSIDAE
	Tarsi without scopula	THOMISIDAE

Suborder THERAPHOSINA

Family **CTENIZIDAE**

Spiders belonging to this family possess a rastellum on the chelicerae. The maxillary endites are rudimentary. The legs are strong and armed with spines. Trichobothria are numerous on metatarsi and tarsi. Three tarsal claws are present. The upper claws are similar and toothed. The lower claw sometimes toothed and sometimes without teeth. Usually four spinnerets. The eight eyes are heterogeneous and generally on an ocular tubercle.

Females and immature males live in burrows in the ground or in decayed fallen logs and fern stumps. The burrow is usually lined with silk and may or may not have a trap-door. On reaching maturity the males live a wandering existence and are generally found hiding under logs and stones.

The family contains the majority of species known as trap-door spiders.

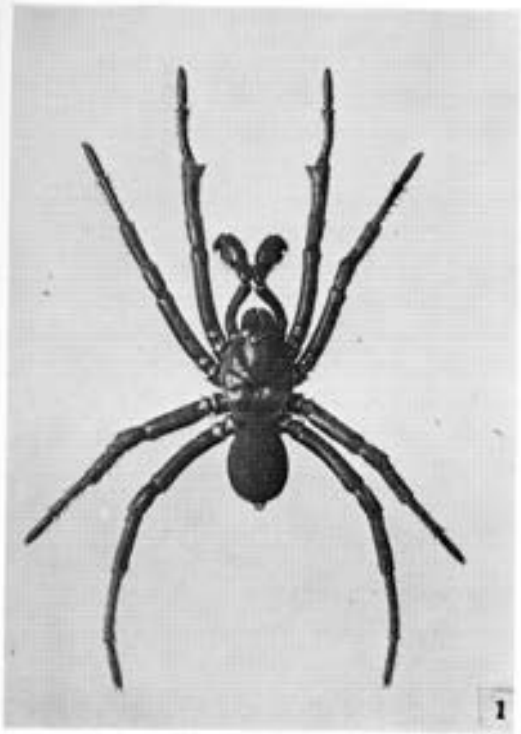
ARBANITIS TASMANICA (Hickman, 1928)

(Pl. I, figs. 1-4)

This spider was originally placed in the genus **Aganippe.** Dr. B. Main (1957) has assigned it to the genus **Arbanitis.** The species appears to be widely distributed in Tasmania. Near Hobart specimens have been taken in gardens at Sandy Bay, Mount Stuart and Moonah. It also occurs on the Queen's Domain and at Risdon. In the vicinity of Launceston it has been found at the Punch Bowl Reserve, on the Trevallyn hills and near Distillery Creek. In the midlands it has been collected at Parattah.

The female has a body-length of about 27.0 mm. The carapace is brown and clothed with fine erect hairs and bristles intermingled with recumbent grey hair. The thoracic fovea is deep, wide and procurved. The eight eyes are in two transverse rows on an ocular tubercle. The front row is strongly procurved, the hind row recurved on its posterior margin. The chelicerae are strong and provided with a rastellum. The furrow has about 8 teeth on the promargin and 6 or 7 much smaller teeth together with a thick scopula on the retromargin. There is also an intermediate group of about 7 small teeth near the base of the furrow. The number of teeth is variable. The maxillae have a group of cuspules at the basal inner angle. The labium is clothed with long bristles and is usually devoid of cuspules, but in some specimens one or two may be present. The structure is submerged and appears to be immobile. The legs are short and stout, the first pair being the shortest and the fourth pair the longest. The tarsi and metatarsi of the first and second pairs are heavily scopulated. The upper tarsal claws have one large and one small tooth, the lower claw is very small and bare. The sternum has three pairs of sigilla, the posterior pair being large and removed from the margin. The abdomen is dark brown above and somewhat lighter below. In the living spider no distinct dorsal pattern is visible but in preserved specimens three or four pairs of light coloured oblique patches are seen. There are two pairs of spinnerets, the anterior pair being very small and not far separated.

The male is much smaller than the female and has a body length of about 12.0 mm. The legs are more slender and the first pair are nearly as long as



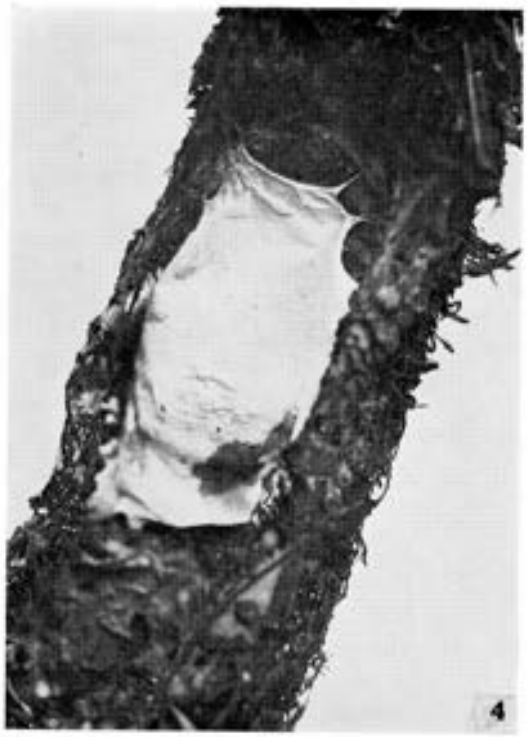


PLATE I.

Fig. 1.—*Arbanitis tasmanica*, male.
Fig. 2.—*Arbanitis tasmanica*, female.
Fig. 3.—Entrance to burrow of *Arbanitis tasmanica* with door open.
Fig. 4.—Egg-sac of *Arbanitis tasmanica* attached to silk lining from burrow.

the hind pair. On the prolateral side of the tibiae of the first pair of legs are two projections or spurs, one dorsal to the other. They are separated by a u-shaped space and each carries a pair of short stout spines (text-fig. 18). The form of the palp is shown in text-fig. 19.

The burrow made by the adult female is about 21.0 cm. in length and 1.8 cm. in diameter near the outer end. The entrance has a neatly fitting trap-door, which is strongly hinged. The outer surface of the door is decorated with lichens, dead leaves, particles of soil and other debris from the surroundings. It is thus effectively camouflaged. The burrow has a thick lining of silk within the entrance but the lining becomes thinner towards the inner end of the burrow. The egg-sac is pillow-shaped, made of white silk, and attached to the wall of the burrow.

ARBANITIS ANNULIPES (C. Koch, 1842)
(Pl. II, figs. 1-2)

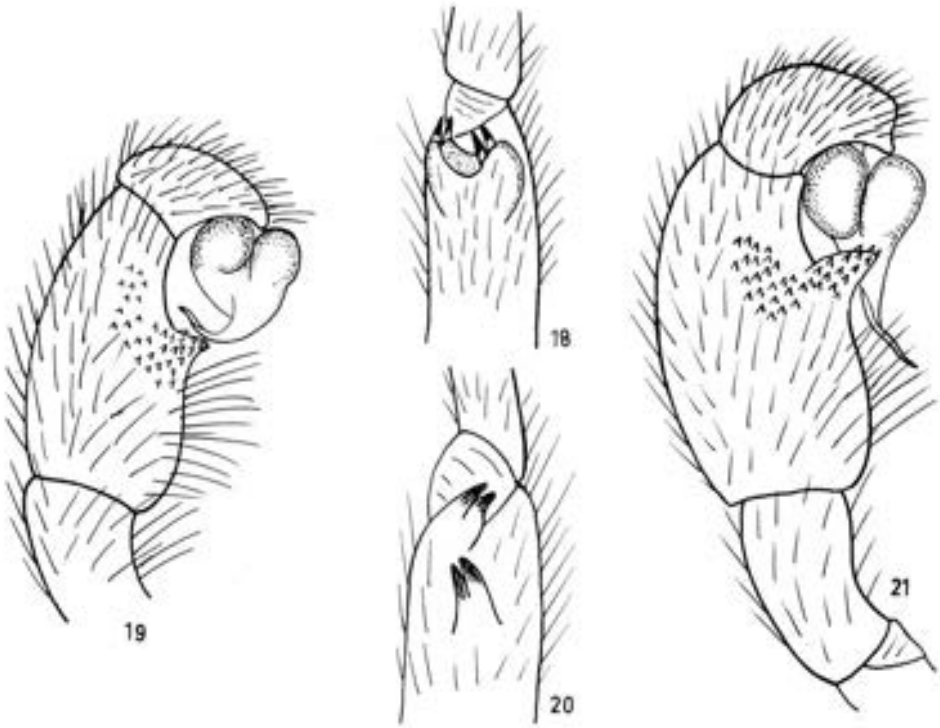
Of the fifteen mygalomorph spiders recorded from Tasmania *Arbanitis annulipes* is one of the most common. It frequently occurs in rain-forest areas in many parts of the State and is often found at the Fern Tree and other places on Mt. Wellington. Musgrave considers it the same species as *Mygale annulipes* recorded from Van Diemensland by C. Koch in 1842 and also the same as *Arbanitis maculipes* described from Tasmania by Hogg in 1903.

The adult female has a body-length of about 18.0 mm. The carapace is yellowish brown and the legs yellow with dark brown patches on the sides. The eight eyes are arranged in two transverse rows on a low tubercle, the front being procurved and slightly shorter than the hind row, which is straight. The thoracic fovea is deep and procurved. The labium is longer than wide and devoid of cuspules. On the inner basal angle of the maxillae a small group of cuspules is present. The chelicerae have a well developed rastellum. The furrow is provided with about 8 large teeth on the promargin, 8 small teeth and a reddish scopula on the retromargin, and one or two small intermediate teeth. The number of teeth is variable in different specimens and often on left and right chelicerae of the one specimen. The front legs are about equal in length to the body. A thick scopula is present on the tarsi of the first and second legs, but very little on the metatarsi. The upper tarsal claws have one large tooth near the base, the lower claw is without teeth.

The abdomen is long ovoid in shape. The dorsal surface is brown marked with a pattern of five pairs of lighter coloured oblique bars. The ventral surface is yellowish brown. Two pairs of spinnerets are present, the anterior pair being very small and non-segmented.

The adult male is about 15.0 mm. in body length and has much the same colouration as the female. The tibial segment of the first pair of legs has two short spurs on the prolateral side near the apex. The two spurs are close together, one behind the other, and each bears two short spines (text-fig. 20). The tibial segment of the palp is much swollen and resembles that of the preceding species (text-fig. 21). The abdomen is clothed above with short yellowish hairs and coarse erect bristles.

The spider usually makes its burrow in the ground but sometimes in fallen decayed logs and old fern stumps. The entrance is without a trap-door and remains open, except when the spider is shedding its skin or making its egg-sac. During these periods the entrance is closed with a layer of silk incorporating soil particles, moss and fragments of wood.



TEXT-FIGURES 18-21

Arbanitis tasmanica
Fig. 18.—Spurs on first tibia of male.
Fig. 19.—Palp of male.

Arbanitis annulipes
Fig. 20.—Spurs on first tibia of male.
Fig. 21.—Palp of male.

Family **DIPLURIDAE**

The chelicerae of spiders belonging to this family lack a rastellum. Maxillary endites are rudimentary. Numerous trichobothria are present on the tibiae, metatarsi and tarsi of the legs. Three tarsal claws are present, the upper pair having either a single or double row of teeth. There are four or six spinnerets, the posterior pair being long, slender and projecting beyond the abdomen; the anterior pair small and wide apart. Eight or six heterogeneous eyes are present.

The Dipluridae live in burrows in the soil or tunnels in decayed logs. The burrow or tunnel has a loose lining of silk, which is produced beyond the entrance in the form of a web or, in some cases, as one or more tubes with radiating threads that act as a snare.

Eight species belonging to the Dipluridae have been recorded from Tasmania. The family includes the funnel-web spiders.

HEXATHELE MONTANA Hickman, 1927

(Pl. II, fig. 3)

This spider is readily recognised by its six spinnerets and black colouration. It is generally found at elevations above 2000 ft. and is common on Mt. Wellington, Mt. Hobbs, Western Tiers and Cradle Mountain.

The female is about 20.0 mm. in body-length. The carapace is black and almost devoid of hairs, except for a light marginal fringe of black bristles. The thoracic fovea is small, deep and straight. The eight eyes are arranged in two transverse rows, the front row being straight and the hind row procurved. The chelicerae are black, large and strong. A rastellum is absent. The fang is long and curved. There is a row of about eleven teeth on the promargin. The retromargin is without teeth but has a thick scopula. The maxillae are dark brown with a thick fringe of reddish hairs along the promargin. The inner basal angle is well rounded and provided with a group of cuspules. The labium is clothed with long bristles and short cuspules. The sternum is black, oval and marked with three pairs of sigilla, which are about equal in size and placed near the margin. The fourth pair of legs are slightly longer than the first pair. The second and third pairs are almost equal. The upper tarsal claws have a diagonal row of about eleven teeth, the lower claw has two teeth. The legs are spinose but without a scopula. The abdomen is ovoid, black and faintly marked with five pairs of yellowish spots, which are more distinct in young specimens. There are six spinnerets. The posterior pair are about 5.6 mm. long, slender and tapering. The third segment is the longest and about twice the length of the second. The middle pair are short, cylindrical and equal in length to the second segment of the posterior pair. The anterior pair are situated on the outer side of the middle pair and slightly in front of them.

The male is about 16.5 mm. in body length and resembles the female in appearance. The tibiae of the first pair of legs are armed with a prominent curved spine rising from a small apophysis on the ventral side (text-fig. 22). The form of the palp is shown in text-fig. 23.

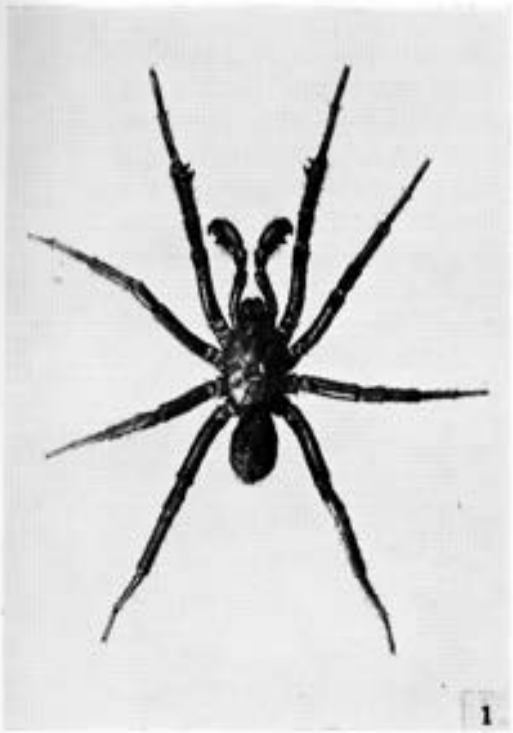
The adults live in silken tubes lining cavities in decayed logs. Young specimens often make their silken tubes under stones. At the entrance the tube is generally expanded into a web. The egg-sac is pillow-shaped and suspended in the tubular nest.

ANAME PEXA Hickman, 1930

(Pl. II, fig. 4)

Aname pexa is the most common mygalomorph spider on the Queen's Domain. It also occurs on Mount Nelson, at Prince of Wales Bay and at Risdon. A closely related species *Aname tasmanica* Hogg is found at Table Cape.

The adult female has a body-length of about 22.0 mm. The carapace is brown and densely clothed with silky recumbent grey hairs intermingled with a few short erect bristles. The thoracic fovea is deep and slightly procurved. The eight eyes are in two transverse rows situated on a black oval ocular tubercle. The front row is procurved, the hind row recurved. The chelicerae are black and strong. A rastellum is absent. The promargin of the furrow has about ten



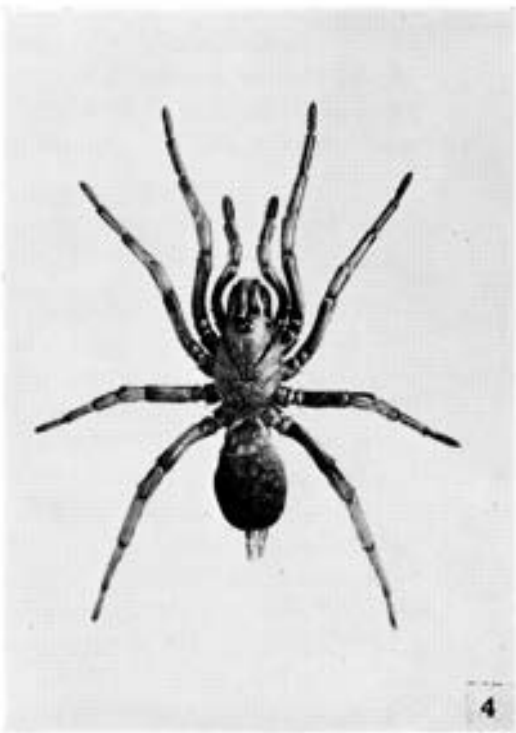


PLATE II.

Fig. 1.—*Arbanitis annulipes*, male.
Fig. 2.—*Arbanitis annulipes*, female.
Fig. 3.—*Hexathele montana*, female.
Fig. 4.—*Aname pezu*, female.

large teeth. The retromargin is without teeth but has a dense reddish scopula. At the basal end of the furrow there is a group of sixteen small teeth. The maxillae have a thick red scopula on the promargin and a group of cuspules near the base. The labium is oval, clothed with black bristles and provided with about four cuspules. The sternum is light brown with a darker margin. It has three pairs of sigilla, the hind pair being the largest. The fourth pair of legs are the longest and a little longer than the body. All the tarsi are scopulate, the first two pairs more densely than the others. The upper tarsal claws have a double row of teeth, there being five or six teeth in each row. The number, however, is variable. The lower claw is small and bare. The abdomen is ovoid, fawn in colour blotched with patches of dark brown and clothed with grey hairs and fine black bristles. There are four spinnerets. The hind pair are about 4.5 mm. long, three-segmented and tapering. The anterior pair are small club-shaped and non-segmented.

The male is about 13.0 mm. in body length. It resembles the female in colouration. The thoracic fovea is deep and recurved. The fourth pair of legs are much longer than the body and there is no apophysis on the tibiae of the front legs. The form of the palp is shown in text-fig. 24.

The burrow is about 15.0 cm. deep and 1.5 cm. in diameter at the entrance. Near the inner end it widens to form a chamber in which the spider can easily turn round. Below the chamber the burrow becomes so narrow that it just accommodates the body of the spider. Into this narrow portion the spider retreats when disturbed. The wall of the burrow has very little silk lining. A collar of grass stalks, twigs, leaves etc. woven together usually surrounds the entrance. There is no trap-door and the burrow remains open for most of the year. During the dry summer months, however, it is generally closed by a sheet of silk spun across the entrance and reinforced with particles of earth. During the middle of winter the adult males leave the burrows and are often found hiding under stones.

ATRAX VENENATUS Hickman, 1927
(The Funnel-web Spider)
(Pl. III, figs. 1-2)

This spider is a close relative of the poisonous funnel-web spider found in New South Wales and Queensland. It is common and widely distributed in Tasmania. In the vicinity of Hobart specimens have been found at Kingston, Mount Nelson, Sandy Bay, Cascades, Lenah Valley, Risdon and Montrose. The spider also occurs on Mt. Hobbs in the east of the State and at Trevallyn and Mt. Ben Lomond in the north.

The adult female varies in body-length from about 18.0 mm. to 25.0 mm. the carapace is black, shining and smooth with very few hairs. The thoracic fovea is deep and strongly procurved. The eight eyes are in two transverse rows, the front row being procurved and the hind row recurved. The chelicerae are black, strong, and without a rastellum. The fang is long and well curved. The furrow has about nine teeth on the promargin, ten on the retromargin and thirteen in an intermediate row running the full length of the furrow. The maxillae are divergent and densely studded with small cuspules along the entire

inner surface. The labium is also thickly covered with cuspules (text-fig. 25). The sternum is shield-shaped and marked with three pairs of large sigilla. The front legs are the longest and slightly longer than the body. All the legs are spinose but without a scopula. The upper tarsal claws have about eight teeth in a diagonal row across the claw. The lower claw has two very small teeth near the base. The abdomen is ovoid, black and clothed with long fine bristles and short hairs. In some specimens a faint pattern of three pairs of oblique lines may be seen on the dorsal surface. Four spinnerets are present. The posterior pair are three-segmented, long and tapering; the anterior pair short, cylindrical and non-segmented.

The male varies in body length from 18.0 mm. to 22.0 mm. The first and fourth pairs of legs are almost equal in length. All tarsi, metatarsi and tibiae possess spines. In the case of the tibiae of the first pair of legs, the whole length of the ventral surface is heavily spined (text-fig. 26). The basal half of the tibiae of the second pair of legs is slightly expanded and its ventral surface heavily spined. No spurs or apophyses are present (text-fig. 27). The form of the palp is shown in text-fig. 28.

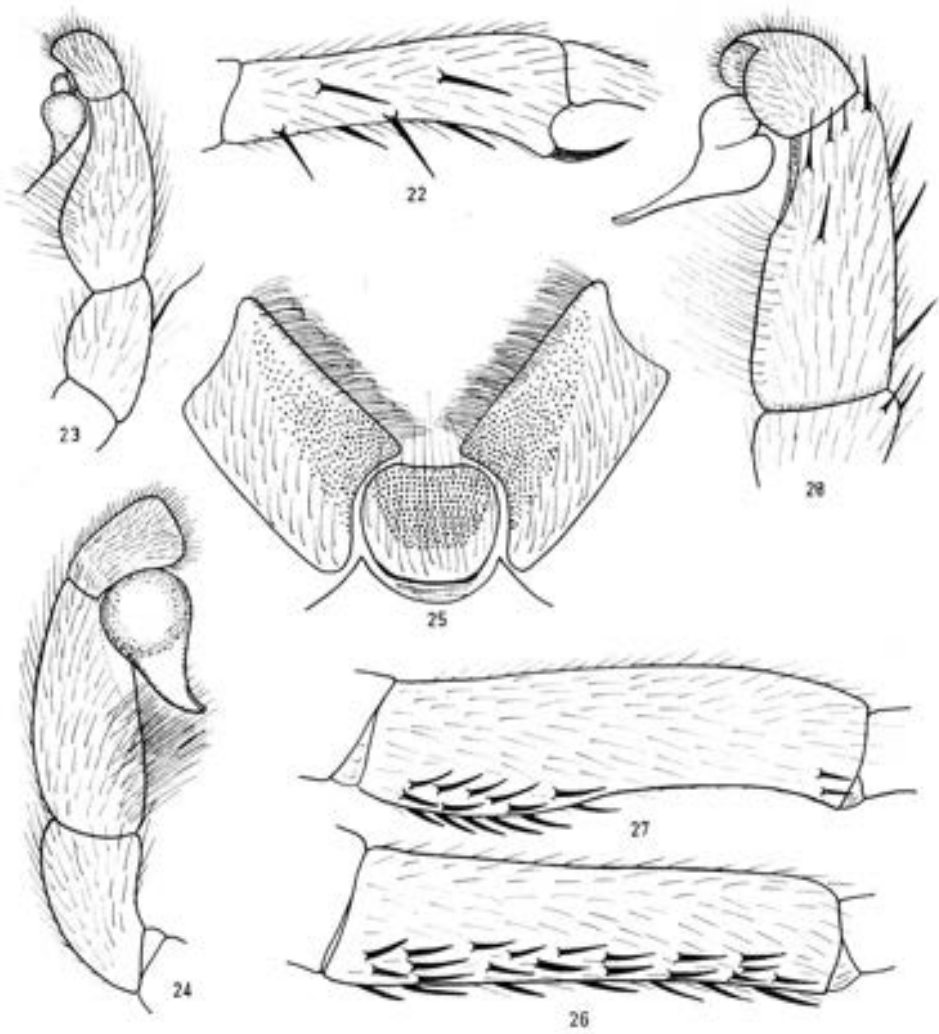
Atrax venenatus lives in cool situations in gullies and along the banks of creeks, where the undergrowth provides shade. The burrow, which may be 30.0 cm. deep, is generally made at the side of a stone or fallen log. It usually has a branch tunnel going off to one side. The whole of the burrow and its branch have a thick silk lining, which forms a loosely attached tube open at the lower end. At the surface of the soil the silken tube is continued for a short distance and ends in a funnel-like opening, often under fallen leaves. From the lower margin of the opening a number of trap-lines radiate over the soil and serve to entangle the feet of insects. The upper part of the funnel lies flat upon the lower part, thus closing the entrance. In some cases two funnels extend from the one burrow.

When disturbed *Atrax venenatus* behaves like other members of the genus. The spider becomes very aggressive raising its front legs and extending its fangs. At the same time it often strikes downwards and drops of venom appear at the tips of the fangs.

Family **MIGIDAE**

The members of this family lack a rastellum on the chelicerae. The maxillary endites are rudimentary. The labium is immovably fused to the sternum. The legs, especially those of the two front pairs, are armed with numerous spines. Trichobothria are present on tibiae, metatarsi and tarsi but are few in number. The upper tarsal claws have one or more teeth, the lower claw small and bare. The fang is provided with four longitudinal ridges. There are eight heterogeneous eyes. The sternum is marked with sigilla and there are four spinnerets.

Only two species belonging to this family have so far been recorded from Tasmania.



TEXT-FIGURES 22-28

Hexathele montana
Fig. 22.—First tibia of male.
Fig. 23.—Palp of male.

Aname pera
Fig. 24.—Palp of male.

Atrax venenatus
Fig. 25.—Labium and maxillae of female.
Fig. 26.—First tibia of male.
Fig. 27.—Second tibia of male.
Fig. 28.—Palp of male.

MIGAS NITENS Hickman, 1927
(Pl. III, fig. 3)

This is the smallest mygalomorph spider recorded from this State. It has been found at Prince of Wales Bay, Cornelian Bay and East Risdon.

The adult female is about 10.0 mm. in body-length. The carapace is shining, dark brown and hairless. The thoracic fovea is deep and strongly recurved. The eight eyes are in two transverse rows. Viewed from above the front row appears straight, the hind row recurved. The ocular area occupies more than half the width of the front of the carapace (text-fig. 29). The chelicerae are short, dark brown and shining. No rastellum is present. The fang is well curved and

reinforced with four longitudinal ridges. The promargin of the furrow has three large teeth and the retromargin six smaller teeth. The maxillae have a reddish scopula on the inner margin and short cuspules extending over a somewhat central area from base to apex (text-fig. 30). The labium is fused to the sternum. It is furnished with bristles and about 20 small cuspules. The sternum is broadly pyriform and marked with three pairs of sigilla. The hind pair are large, the others small and indistinct. The legs are short, black and shining. The length of the first pair is about equal to that of the body. The tibiae and metatarsi of the first and second pairs are armed with numerous curved spines on both sides. The third and fourth pairs have few spines. The upper tarsal claws have one or two teeth. The lower claw is small and without teeth. The abdomen is ovoid, dark brown above and lighter below. It is clothed with short hair. There are four short yellowish spinnerets.

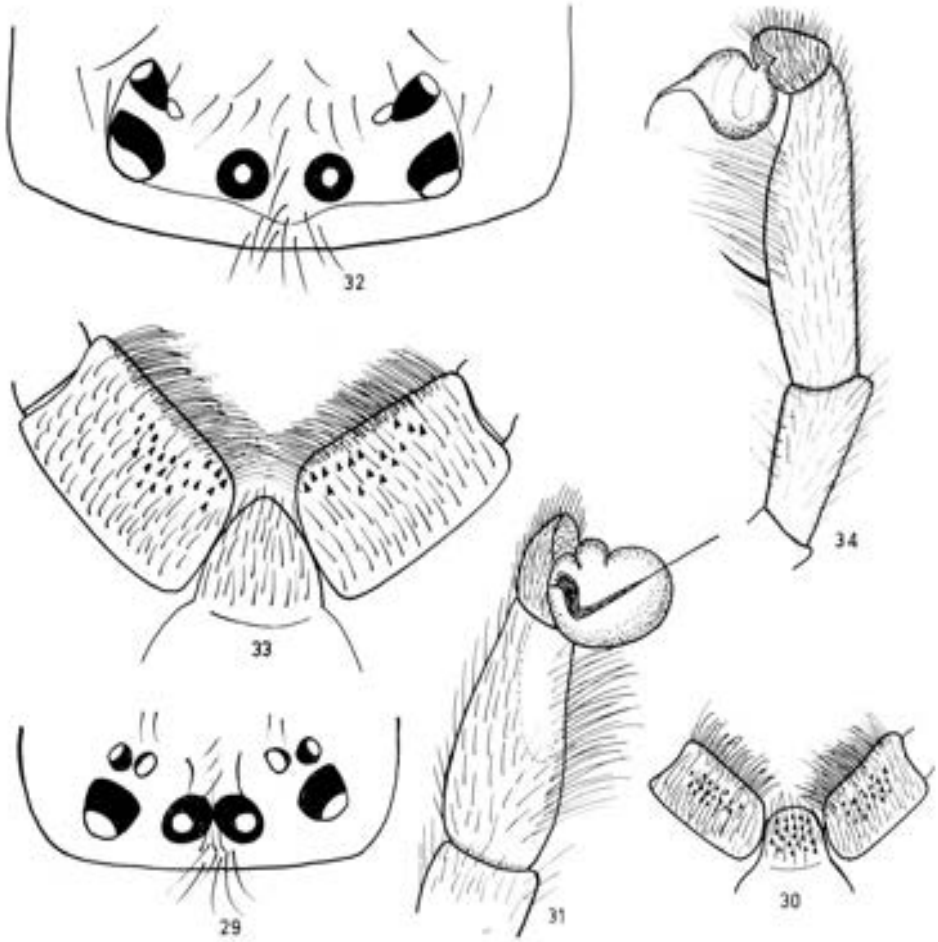
The adult male is about 7.6 mm. in body-length. The front legs are nearly twice the length of the body and armed with very few spines. There are no spurs or apophyses on any of the legs. On the retrolateral surface of the chelicerae there is a row of small teeth, which rasp against a hard ridge on the prolateral surface of the femur of the palp and appear to act as a stridulating organ. The form of the palp is shown in text-fig. 31.

This small trap-door spider usually makes its burrow in an embankment or in earth that has collected in crevices on a cliff face. The burrow is about 40.0 mm. deep and 9.0 mm. in diameter. It is lined throughout with a thick layer of silk. The entrance has a neatly fitting trap-door. The egg-sac is very thin and consists of a few threads holding the egg-mass against the silken wall of the burrow.

HETEROMIGAS DOVEI Hogg, 1902
(Pl. III, fig. 4)

Heteromigas dovei does not appear to occur in the south of Tasmania but is common in the north. It was first recorded from Table Cape but has since been found at a number of localities in or near Launceston. Thus it has been taken at the Punch Bowl Reserve, Lawrence Vale, Glen Dhu, Trevallyn and Distillery Creek.

The adult female is about 16.0 mm. in body-length. The carapace is yellowish brown and the abdomen dark grey without any pattern. The eight eyes are arranged in two transverse rows. The front row is slightly procurved and the hind row recurved. The ocular area occupies about half the width of the head region (text-fig. 32). The thoracic fovea is almost straight. The chelicerae are short, geniculate and without a rastellum. The fang has four longitudinal ridges. The furrow is furnished with three large teeth on the promargin, four on the retromargin and about six small intermediate teeth at the base. The labium is immobile being fused to the sternum. It is devoid of cuspules. The maxillae are broad, nearly square, and furnished with cuspules on the inner half of the ventral surface (text-fig. 33). The sternum is smooth and marked with three pairs of sigilla. The posterior pair are large and near the central



TEXT-FIGURES 29-34

Migas nitens

Fig. 29.—Eye-group of female.
Fig. 30.—Labium and maxillae of female.
Fig. 31.—Palp of male.

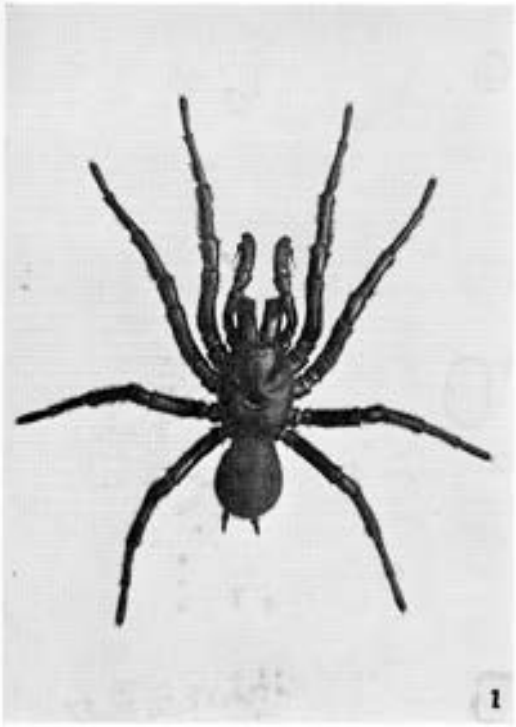
Heteromigas dorei

Fig. 32.—Eye-group of female.
Fig. 33.—Labium and maxillae of female.
Fig. 34.—Palp of male.

line, the others are small and marginal. The legs are short and stout, the first three pairs being nearly equal in length and shorter than the fourth pair. The metatarsi and tarsi of the first and second pairs are somewhat flattened and armed on each side with strong spines. The femora of the palps are strongly bowed round the chelicerae.

The male is about 12.0 mm. in body length. The palps are long, devoid of spines. The genital bulb is large, almost spherical and produced into a short curved style. The tibia is more than five times the length of the tarsal segment (text-fig. 34).

The burrow is usually made in clay soil. It is about 22.0 cm. deep and 1.3 cm. in diameter. The wall is thinly lined with silk. The entrance has a closely fitting trap-door with a bevelled margin.



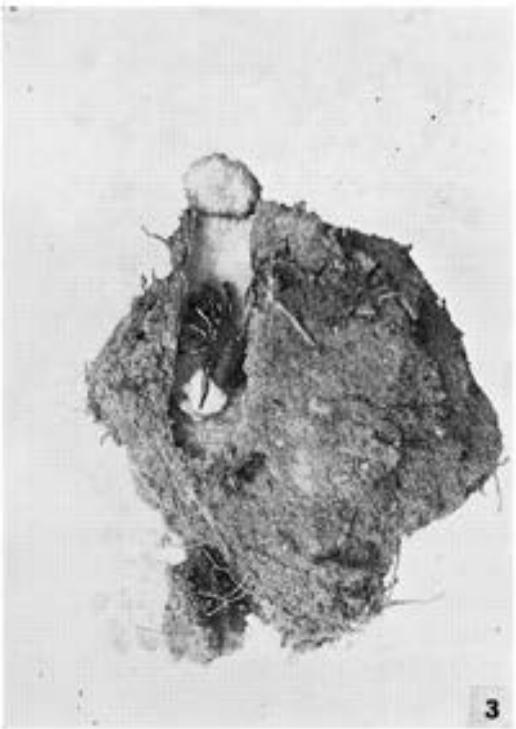


PLATE III.

Fig. 1.—*Atrax venenatus*, male.
Fig. 2.—*Atrax venenatus*, female.
Fig. 3.—*Migas nitens*, female in burrow.
Fig. 4.—*Heteromigas dorei*, female.

Suborder **HYPOCHILINA**
Family **HYPOCHILIDAE**

The members of this family have heterogeneous eyes arranged in two rows. The chelicerae lack a lateral boss. Both margins of the furrow are armed with teeth. The thoracic fovea has the form of a longitudinal groove. The maxillae have well-developed endites. The labium is either free or immobile. There are three tarsal claws, the upper pair are toothed, the lower claw strongly curved. Spurious claws are present but no tarsal scopula. There are four lungs (except in the Chilean genus **Austrochilus,** which has the posterior pair of lungs replaced by tracheae). The cribellum is undivided.

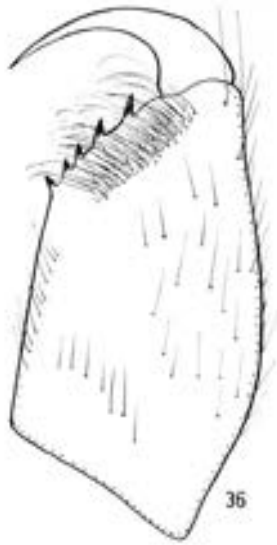
The Hypochilidae are a very small family containing only five species. However, they are remarkable not only in their morphology but also in their distribution. Two species occur in the United States of America, one in China, one in Chile and one in Tasmania. The Tasmanian representative is the well-known Cave Spider, which is described hereunder.

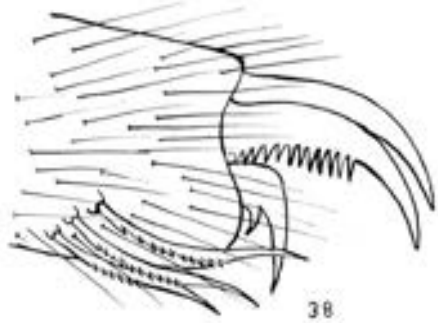
HICKMANIA TROGLODYTES (Higgins & Petterd, 1883)
(The Tasmanian Cave Spider)
(Pl. IV, figs. 1-4)

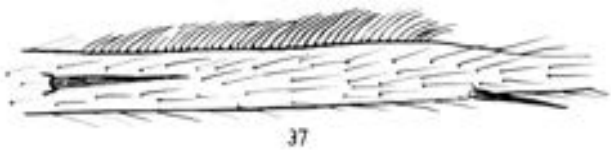
The Cave Spider was first recorded and described by Higgins and Petterd in 1883, the original specimens coming from caves in the Mole Creek district. In 1958 Dr. W. J. Gertsch of the American Museum of Natural History revised the family Hypochilidae and placed the Tasmanian spider in a new genus, which he called **Hickmania.**

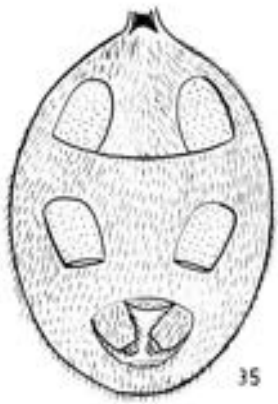
The Cave Spider is widely distributed in this State. It has been found in caves not only at Mole Creek, but also at Hastings and the Florentine Valley. However, it is not confined to caves but will occupy any cool dark cavity, that is large enough for it to make its extensive web. It occurs in hollow logs and tree-stumps on Mt. Wellington, in dark spaces among rocks at Forth Falls, in mine shafts on the West Coast and sometimes in household wells.

The female is about 19.0 mm. in body-length. The carapace is reddish brown and the abdomen dull brown to almost black without any distinct pattern. On the ventral surface the lung covers appear as four yellowish patches (text-fig. 35). The eight eyes are in two transverse rows, both of which are straight. The chelicerae are strong with a moderately long fang. The promargin of the furrow has five teeth and a scopula of curved hairs. (text-fig. 36). The retromargin has a group of minute denticles. The labium is immovably fused to the sternum. The maxillae are rounded at the apex and provided with a well developed serrula. The legs are very long and thin, the first pair being about four times the length of the body. The middle third of the fourth metatarsi bears the calamistrum, which consists of a single row of curved bristles (text-fig. 37). The upper tarsal claws have about twelve teeth, the lower claw a single tooth (text-fig. 38). The cribellum is undivided (text-fig. 39).









TEXT-FIGURES
35-39

Hickmania troglodytes

Fig. 35.—Ventral surface of abdomen of female.
Fig. 36.—Chelicera.
Fig. 37.—Calamistrum.
Fig. 38.—Tarsal claws.
Fig. 39.—Cribellum and spinnerets.

The male is about 13.0 mm. in body-length and resembles the female in general appearance. The legs, however, are relatively longer and the second pair have a peculiar twist in the apical half of the metatarsus. Dr. Gertsch (1958) has given a detailed description and excellent figures of both sexes.

The web made by the Cave Spider is an extensive horizontal sheet. One observed in a small narrow cave at Mole Creek was suspended between the walls of the cave and measured about 122.0 cm. long and 61.0 cm. wide. The spider runs on the lower surface of the web. The egg-sac is pear-shaped and about 40.0 mm. long and 26.0 mm. wide. It is usually suspended from the web by a narrow stalk. In caves the pure white egg-sac generally is not decorated. However, if the spider is living in a hollow log, the surface of the egg-sac is often covered with small particles of wood and other debris.

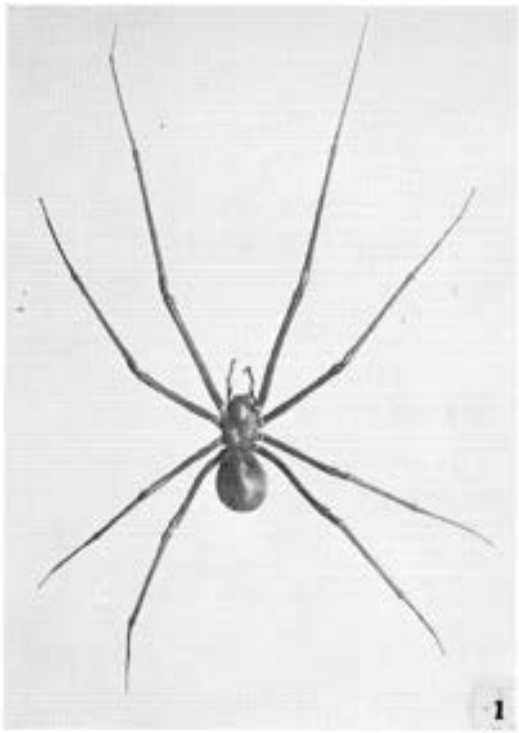


PLATE IV.

Fig. 1.—Hickmania troglodytes, female.
Fig. 2.—Web of Hickmania troglodytes in entrance to a cavity among rocks.
Fig. 3.—Egg-sac of Hickmania troglodytes.
Fig. 4.—Egg-sac of Hickmania troglodytes decorated with particles of wood and other debris.

Suborder **DIPNEUMONINA**

Family **DINOPIDAE**

In spiders of this family the cephalothorax and abdomen are long. The body is clothed with plumose hair. The eight eyes are homogeneous and arranged in three rows of 4.2.2. The four eyes forming the front row are very small and in a procurved line. The two eyes of the second row may be extremely large or of moderate size, whilst those of the third row are small and remote from those of the second row. The chelicerae are strong, without a lateral boss and with teeth on both margins of the furrow. The sternum is broadly truncate in front and narrowed posteriorly. The legs are long and slender. Two or three trichobothria are present below the first tibiae and near the base, but there are none elsewhere. Three tarsal claws are present, the upper pair pectinate. There is a short calamistrum and an undivided cribellum.

The Dinopidae are known as the Ogre-faced Spiders from the unusual appearance which the enormous size of the posterior median eyes gives to some species. Mr. N. L. Roberts (1955) calls them Netting Spiders from the remarkable way in which they capture their prey. Most members of the family occur in tropical regions but one is found in Tasmania.

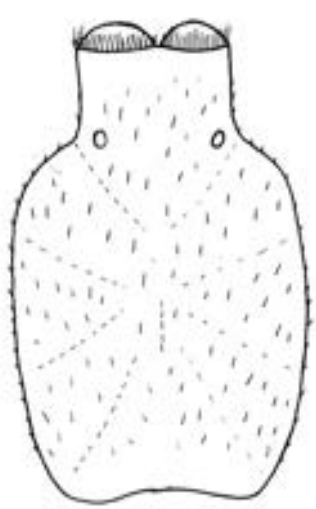
DINOPIS SUBRUFA L. Koch, 1878

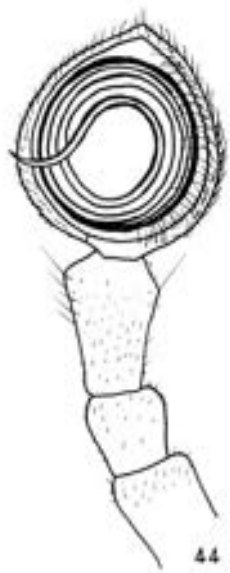
Dinopis subrufa was first recorded from Queensland. It is common in New South Wales and not uncommon in Tasmania. Specimens have been found at North West Bay, Sandy Bay, The Queen's Domain, Risdon, Trevallyn and Glen Dhu.

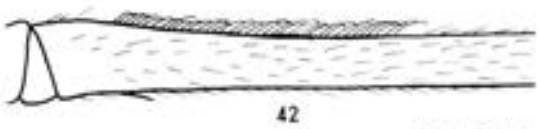
The adult female is about 23.0 mm. in body-length. The carapace is brownish yellow clothed with recumbent plumose hair and short dark spines. It is somewhat flat and the radial grooves shallow (text-fig. 40). The eight eyes are arranged in three rows. The front row has four small eyes in a procurved line (text-fig. 41). The anterior median eyes are the smallest, situated on a median tubercle, and twice their diameter apart. The anterior lateral eyes are directed downwards and situated on two projections, one on each side of the front of the head region. The second row is formed by the two extremely large posterior median eyes, which are directed forward. Each of them is almost surrounded by a fringe of reddish yellow hair. The third row is formed by the two posterior lateral eyes, which are well removed from the eyes of the second row (text-fig. 40). The chelicerae lack a lateral boss. The fang is long and curved. The furrow has four teeth on each margin. The maxillae are diverging and have a scopula on the promargin. The labium is immobile. The sternum is long and triangular, truncate in front and pointed behind. It is clothed with plumose hair and short blunt spines. The legs are long and slender, their lengths in order from the front being 33.7, 33.1, 27.7, and 29.2 mm. The calamistrum (text-fig. 42) is equal to about one quarter the length of the fourth metatarsus and is situated in the basal third of the segment. There are three tarsal claws; the upper pair have six teeth, the lower claw one. Spurious claws are also present. The abdomen is about 18.0 mm. long and 6.0 mm. in greatest width. It is yellowish brown in colour and clothed with pale yellow and reddish

brown plumose hairs intermingled with short black spines. Near the middle of its length are two dorsal humps, one on each side. Towards the front and hind ends it is narrowed. The cribellum is wide and undivided. The form of the epigynum is shown in text-fig. 43.

The adult male is smaller than the female being only about 10.6 mm. in length of body. The carapace is flat and of a brownish colour with a cream median band, which is forked in front. The two branches of the fork pass forward and end in a tuft of long white or cream hairs forming part of the dorsal fringe of the large eyes. The two tufts project forward over the eyes like a pair of horns. The margin of the carapace is yellowish. The sternum has a triangular yellowish area in the middle bounded by brown on each side. The abdomen is dark brown with a cream coloured longitudinal band on each side of the dorsal surface. The form of the palp is shown in text-fig. 44. The embolus is long and wound in a close spiral.







TEXT-FIGURES
40-44
Dinopis subrufa
Fig. 40.—Dorsal view of carapace of female.
Fig. 41.—Front view of eyes and chelicerae.
Fig. 42.—Calamistrum.
Fig. 43.—Epigynum.
Fig. 44.—Palp of male.

The habits of *Dinopis subrufa* have been well described by Dr J. Baum (1937) and Mr N. L. Roberts (1955). During the daytime the spider is inactive, hiding amongst grass and shrubs, where it simulates the appearance of a little dry stick. At night it becomes active and spins a small rectangular net of calamis-

trated threads. The net is held by the claws of the first and second pairs of legs. When an ant or other suitable insect comes near enough, the spider suddenly lunges forward and covers the insect with the net. The flocculent threads soon entangle the struggling prey.

The egg-sacs are hard and spherical, about 9.0 mm. in diameter. They are marked with black spots. Several egg-sacs may be suspended from a twig or grass stalk.

Family **DICTYNIDAE**

Head not strongly narrowed in front. Thoracic fovea longitudinal. Usually eight heterogeneous eyes in two transverse rows. Chelicerae strong, often geniculate and provided with a lateral boss and a promarginal scopula. Both margins of furrow armed with teeth. Legs usually strong, without a true scopula. Three tarsal claws. The upper claws always, the lower claw usually, toothed. The calamistrum consisting of either one or two rows of curved bristles on the fourth metatarsus. Cribellum either entire or divided. Adult males often lack the calamistrum and cribellum or else possess the structures in a reduced condition.

The webs are placed in varying situations. They may be on buildings, trunks of trees, fences, etc. or under logs and loose stones on the ground. Most species exhibit a preference for one situation rather than another. The main threads of the webs are partly surrounded by flocculent silk spun from the cribellum. Many of the webs have a bluish appearance when first made.

In the present booklet the family Dictynidae is regarded as also including spiders placed by some authorities in the families Psechridae and Amaurobiidae.

IXEUTICUS ROBUSTUS (L. Koch, 1872)
(Pl. V, figs. 1-2)

Ixeuticus robustus is a large black spider, which often makes a dense tangled web in the corner of windows in garages, sheds and other buildings. The webs are also frequently seen on paling fences and in crevices of the rough bark of eucalypts.

The adult female measures about 18.0 mm. in body length. The front legs are about 20.0 mm. long. The second and fourth pairs of legs are about equal in length and slightly shorter than the first pair. The general colour is black and the living spider often has a bluish sheen. In some specimens the dorsal surface of the abdomen is without any distinct pattern, but in others it has indistinct grey markings. The eight eyes are in two transverse rows, the front row being straight and the hind row procurved. The chelicerae are strong and provided with four teeth on the promargin, two on the retromargin. The sternum is oval, black and shining. Three tarsal claws are present; the upper pair have eleven and the lower claw four teeth. The calamistrum consists of a single row of curved bristles and its length is about half that of the fourth metatarsus. The cribellum is divided (text-fig. 45). The epigynum has the form shown in text-fig. 46.

The male resembles the female in general appearance but shows a remarkable variation in size. Forty one males, bred from eggs laid by the one female and raised to maturity, varied in body length from 3.4 mm. to 12.0 mm. The form

of the palp is shown in text-fig. 47. The tibia has a short pointed apophysis on the retrolateral side near the middle and a truncate apophysis on the dorsal side at the apex.

The web of *Ixeuticus robustus* is typical of the webs spun by most cribellate spiders. It consists of a framework of plain threads on which the characteristic hackled band of flocculent silk is supported. New threads are frequently added and the web increases in size until it is often more than a foot across. One or more openings occur in the surface of the web and lead in to the spider's retreat.

The egg-sac is plano-convex, composed of white silk and usually made in the spider's retreat. After the young have emerged the old egg-case is brought out and dropped from the web.

According to Musgrave (1950) the bite of *Ixeuticus robustus* may have serious results.

IXEUTICUS MARTIUS (Simon, 1899)
(Pl. V, fig 3)

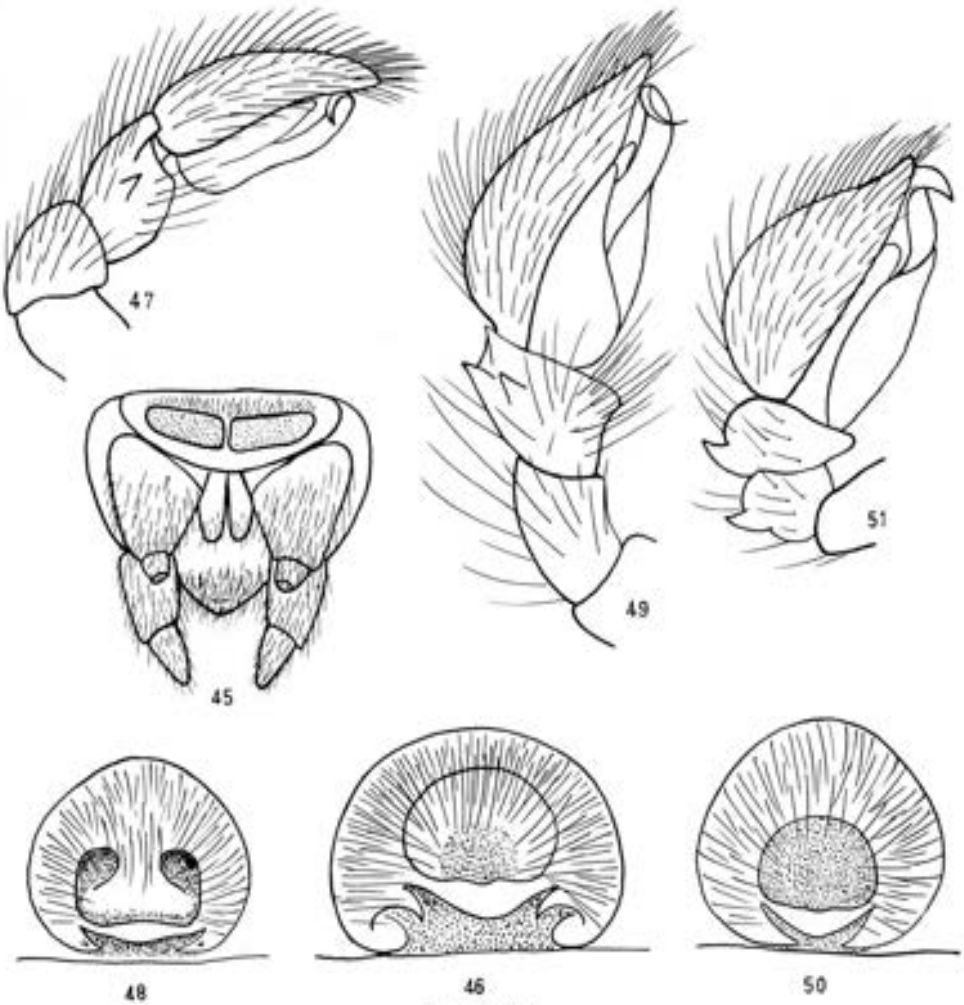
This spider was first recorded from New Zealand and according to R. R. Marples (1959) is abundant throughout both islands. It is also very common in Tasmania and frequently occurs in gardens.

The female has a body-length of about 11.0 mm. The carapace is brownish black and behind the ocular region is clothed with recumbent white hairs. Chelicerae and mouth-parts black. Sternum reddish brown. Legs also reddish brown with faint dark bands. Abdomen brownish black above, clothed with white, brown and black hairs intermingled. The white hairs tend to form small white spots. On the anterior half of the dorsal surface there is a median brown band bisected longitudinally by a stripe of white hairs. The band is followed by four or five indistinct chevrons on the posterior half. The chelicerae have four teeth on the promargin, the second basal tooth being the largest. Two teeth are present on the retromargin. The eight eyes are in two transverse rows, the front row being almost straight and the hind row procurved. The anterior median eyes are slightly larger than the others. There are three tarsal claws. The upper claws have nine, and the lower claw three teeth. The calamistrum has a length equal to about half that of the fourth metatarsus. The cribellum is divided. The epigynum has the form shown in text-fig. 48.

The male resembles the female in colouration and general appearance. The length of the body varies from 5.2 mm.-10.0 mm. The tibial segment of the palp (text-fig. 49) has three pointed apophyses on the dorsal side.

The web of this spider has much the same form as that of *Ixeuticus robustus*. However, it is generally smaller and not so dense. Although the web is often found on fences and buildings it occurs more frequently on shrubs, especially on Cypress hedges.

The egg-sac is made of white silk and is lenticular in form. Its diameter is about 10 mm. and it may contain over 200 eggs. The progeny raised to maturity from 122 eggs in one egg-sac included 48 males and 58 females. Sixteen of the eggs either failed to develop or gave rise to young that failed to reach maturity.



TEXT-FIGURES
45–51

Ixeuticus robustus
Fig. 45.—Cribellum and spinnerets of female.
Fig. 46.—Epigynum.
Fig. 47.—Palp of male.

Ixeuticus martius
Fig. 48.—Epigynum.
Fig. 49.—Palp of male.

Ixeuticus candidus
Fig. 50.—Epigynum.
Fig. 51.—Palp of male.

IXEUTICUS CANDIDUS (L. Koch, 1872)

(Pl. V, fig. 4)

This species is readily recognised by its light colouration and the pattern on the abdomen.

The female measures about 8.0-10.0 mm. in body-length. The carapace is reddish-brown and densely clothed with white hairs. Chelicerae dark brown with a reddish yellow promarginal scopula. Maxillae, labium and sternum dark brown. The abdomen is brownish yellow and densely clothed with white recumbent hair. Intermingled with the white hair are erect black bristles. On the anterior half of the dorsal surface is a dark brown median longitudinal mark. This is followed on the posterior half by six more or less distinct chevrons lying between tufts of white hair. The legs are banded with brown. The eight eyes

are in two transverse rows. The front row is straight; the hind row procurved and wider than the front row. Chelicerae geniculate with four teeth on the promargin and two on the retromargin. The first pair of legs are about three times the length of the carapace. Three tarsal claws are present, the upper pair being furnished with 11 teeth, the lower claw with three teeth. The calamistrum is composed of a single row of curved bristles and is about half as long as the fourth metatarsus. Cribellum is divided. The form of the epigynum is shown in text-fig. 50.

The male is about 7.0 mm. in body-length and resembles the female in colouration and general appearance, but has longer legs. The form of the palp is shown in text-fig. 51. A short pointed dorsal apophysis is present on the patella and also on the tibia.

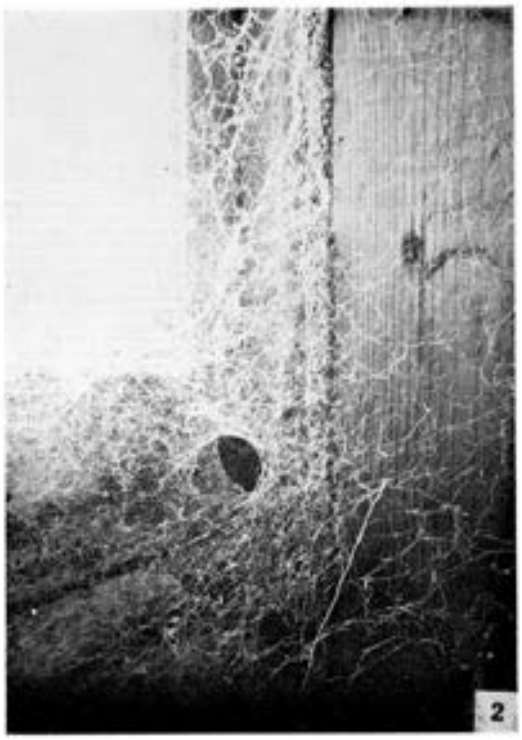
Ixeuticus candidus usually spins its web on dense prickly shrubs, such as the common gorse (*Ulex europaeus*) or the native gorse (*Daviesia ulicina*). The web is rather small and leads into a cocoon-like retreat made of very dense tough silk. The spider appears to feed mainly on ants.

PARAMATACHIA TUBICOLA (Hickman, 1950)
(Pl. VI, figs. 1-2)

Spiders of the genera **Matachia** and **Paramatachia** were originally placed in the family Psechridae. However, in a recent study of the group to which these genera belong, Professor J. B. Marples (1962) has shown that there is no valid reason for separating them from the Dictynidae.

The female of *Paramatachia tubicola* is about 7.3 mm. in body-length when mature. The carapace and chelicerae are dark reddish brown to almost black. The legs are yellowish with brown bands. The abdomen is dull yellow with a strongly marked pattern of dark brown patches on the dorsal surface and sides. The ventral surface has a wide median brown band extending from the epigastric furrow to the spinnerets. The surface of the carapace is smooth and shining. The eight eyes are in two transverse rows. The front row is slightly recurved, the posterior row straight. The chelicerae are very large, powerful and tapering. They project forward. The fang is long and slightly sinuous. There are four teeth on the promargin of the furrow and two on the retromargin. The first pair of legs are a little longer than the body. All the legs except the last pair are directed forward. There are three tarsal claws, the upper pair being furnished with seven teeth, and the lower claw with two. The calamistrum is composed of a single row of curved bristles and occupies about 5/7 of the length of the fourth metatarsus (text-fig. 52). The abdomen is long and cylindrical with the posterior end rounded and extending slightly beyond the spinnerets. The cribellum is not divided (text-fig. 53). The form of the epigynum is shown in text-fig. 54.

The male is a little shorter than the female but similar in general appearance. The form of the palp is shown in text-fig. 55. The patella has a dark longitudinal serrated ridge on the retrolateral margin of the dorsal surface and the tibia is armed with a sharp retrolateral apophysis.



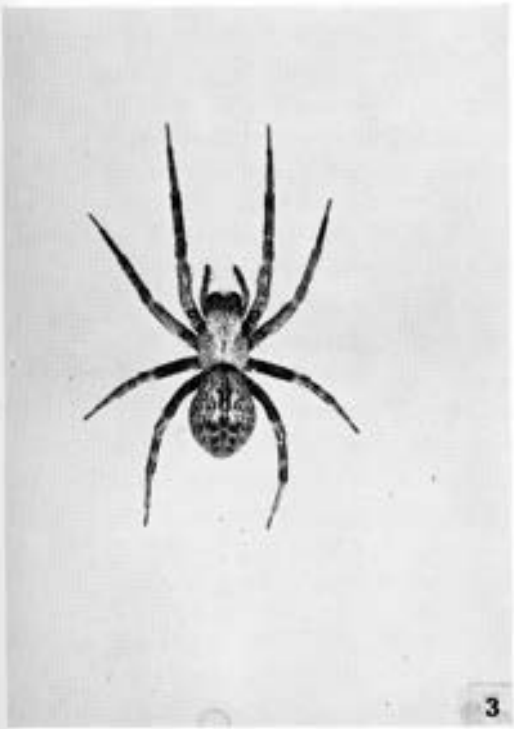


PLATE V.

Fig. 1.—*Izeuticus robustus*, female.
Fig. 2.—Web of *Izeuticus robustus*.
Fig. 3.—*Izeuticus martius*, female.
Fig. 4.—*Izeuticus candidus*, female.

C

This spider lives in holes made in dead wattles and other trees by wood boring insects. The cylindrical nature of the abdomen and the directing forward of the third pair of legs are features correlated with the habit of living in narrow tunnels. From the entrance to the tunnel the spider spins its typical ladder-like web (Pl. VI, fig. 2). The small white lenticular egg-sac is attached to the wall of the tunnel in which the spider lives.

STIPHIDIUM FACETUM Simon, 1902
(Pl. VI, figs. 3-4)

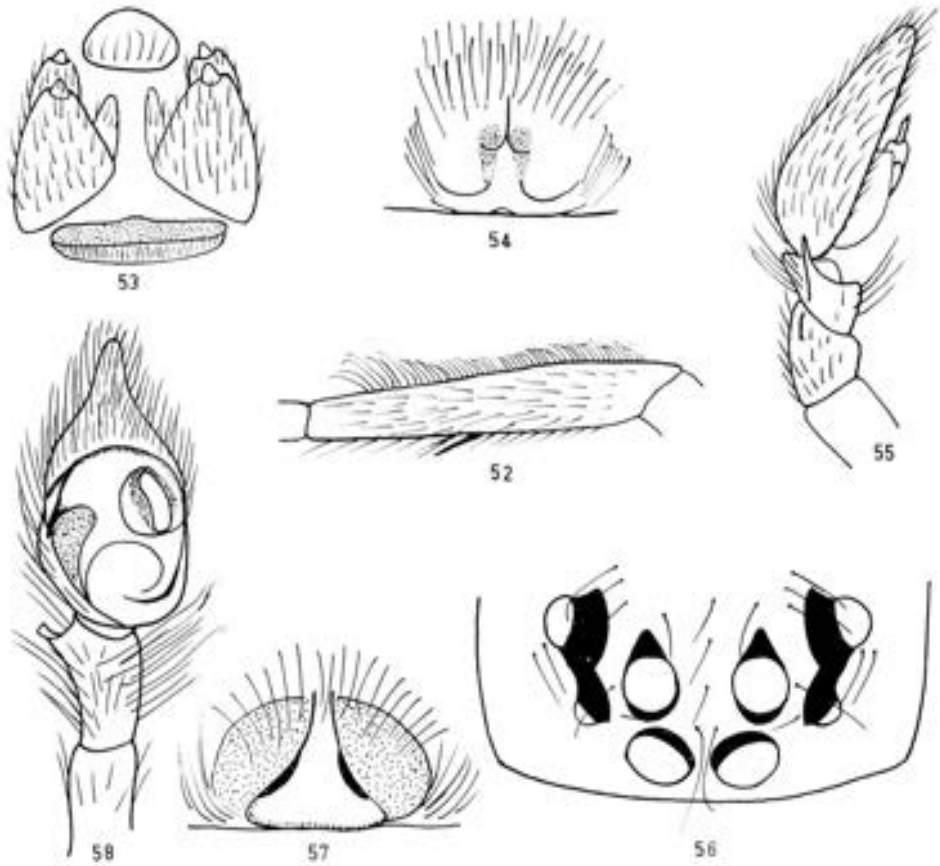
As in the case of the preceding species this spider was originally placed in the family Psechridae.The original description is based on an immature male.

The adult female is about 9.0 mm. in body-length. The carapace is yellowish brown with a dentate marginal band. Above the band on each side is a row of three sinuous black spots. The head region is dark. The abdomen yellowish brown speckled with black. The dorsal surface is marked with two parallel black lines, which are somewhat dentate and bordered with white on the inner side. The white border is occupied by several tufts of white hairs. The colour of the spider is variable and some specimens are much darker than others. The carapace is wide, rounded at the sides and narrowed in front. It is highest at the thoracic fovea, from which it slopes gently to the front and steeply to the posterior. The eight eyes are arranged as shown in text-fig. 56. The anterior lateral eyes are small and oval. They form a strongly recurved line with the anterior medians and a strongly procurved line with the posterior medians. The chelicerae have four teeth on the promargin and two on the retromargin. The labium is not much longer than wide, slightly narrowed and truncate at the apex. The legs are long and slender, the first pair being about twice the length of the body. They are devoid of a scopula and claw tufts. Trichobothria are present in a double row on the tibiae and in a single row on the metatarsi and tarsi. There are three tarsal claws. The upper claws have eight teeth and the lower claw three. The legs are clothed with recumbent plumose hairs intermingled with bristles and spines. The calamistrum consists of a single row of curved bristles and is equal in length to about 2/7 of the fourth metatarsus. The cribellum is wide and divided. The form of the epigynum is shown in text-fig. 57.

The adult male resembles the female in appearance and has about the same body-length. The legs, however, are much longer, the first pair being nearly three times the length of the body. The form of the palp is shown in text-fig. 58. The tibia has a small truncate apophysis on the retrolateral side near the apex.

The web made by this spider is shown in Pl. VI, fig 4. It resembles a wide inverted funnel or the shape of a sombrero. The spider rests at the top of the central part of the funnel. The web is frequently made in cellars and other dark rooms of buildings. In the bush it is usually placed in hollow trees or under fallen logs. The egg-sac is lenticular and about 10.0-12.0 mm. in diameter. It is made of white silk and is frequently decorated with particles of debris. It is placed in the central part of the web.

Stiphidium facetum is very common throughout most of Tasmania. Mature males and females are found during the summer and autumn.



TEXT-FIGURES
52-58

Paramatachia tubicola

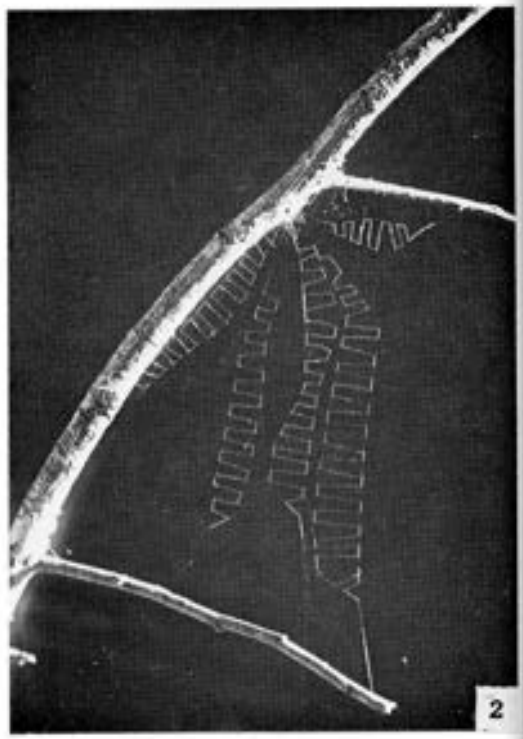
Fig. 52.—Calamistrum of female.
Fig. 53.—Cribellum and spinnerets.
Fig. 54.—Epigynum.
Fig. 55.—Palp of male.

Stiphidium facetum

Fig. 56.—Eye-group.
Fig. 57.—Epigynum.
Fig. 58.—Palp of male.

Family **DYSDERIDAE**

The spiders of this family lack a cribellum and calamistrum. They usually have six homogeneous eyes arranged in a transverse oval group. The chelicerae are long and without a lateral boss. The fang is usually very long and the margins of the furrow oblique. The carapace is united to the sternum by hard chitin, which extends between the bases of the coxae. The maxillae are parallel and the labium free. The third pair of legs are directed backwards. There are one or two trichobothria on the tibiae, one on the metatarsi and none on the tarsi. Either three or two tarsal claws are present. A pair of tracheal spiracles are situated close behind the lung-slits.



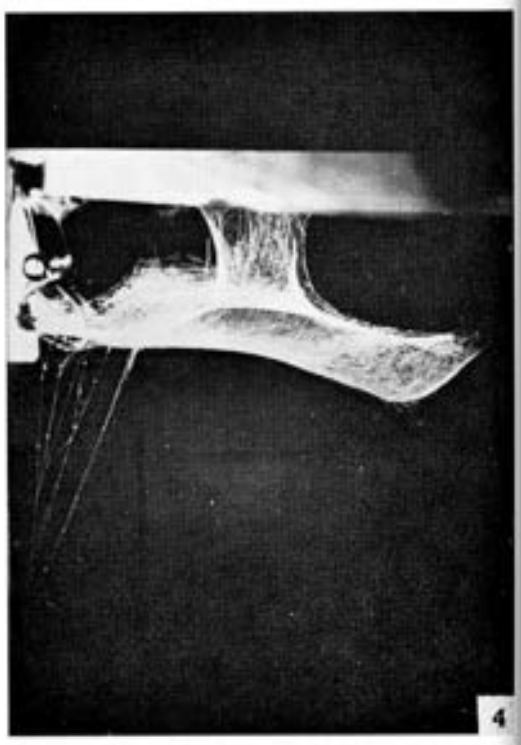


PLATE VI.

Fig. 1.—*Paramatachia tubicola*, female.
Fig. 2.—Web of *Paramatachia tubicola*.
Fig. 3.—*Stiphidium facetum*, female.
Fig. 4.—Web of *Stiphidium facetum*.

DYSDERA CROCATA C. L. Koch, 1839
(Pl. VII, fig. 1-2)

This spider is a European species that has probably been introduced into Tasmania. It is common in gardens and cultivated areas but seldom found in the bush. W. J. Rainbow (1900) described it as a new species naming it *Dysdera australiensis*.

The adult female is about 14.0 mm. in body-length. The carapace is reddish brown and almost hairless. The six eyes form a small oval transverse group (text-fig. 59). The anterior pair are slightly larger than the others, which form a strongly procurved posterior row of four. The chelicerae are reddish brown, long, conical and projecting towards the front. They have very long fangs. The furrow is strongly oblique. The promargin is fringed with a light scopula and has a row of three small teeth on the basal half (text-fig. 60). The retromargin is without teeth. The maxillae, labium and sternum are reddish brown. The labium is long, narrow and tapering towards the apex, which is truncate and deeply excavated in front. The palps and legs are yellowish. No spines are present on the first and second legs, but a few occur on the tibiae and the metatarsi of the third and fourth pairs. There are also two short spines on the dorsal surface near the base of the femora of the fourth pair of legs. All the tarsi are provided with a scopula that extends onto the distal part of the metatarsi. Two tarsal claws and dense claw tufts are present (text-fig. 61). The claws have about six teeth. The abdomen is long ovate in shape, yellow to grey in colour and clothed with very short hair. There is no epigynum. A pair of tracheal spiracles are situated immediately behind the lung-slits. Six short spinnerets are present.

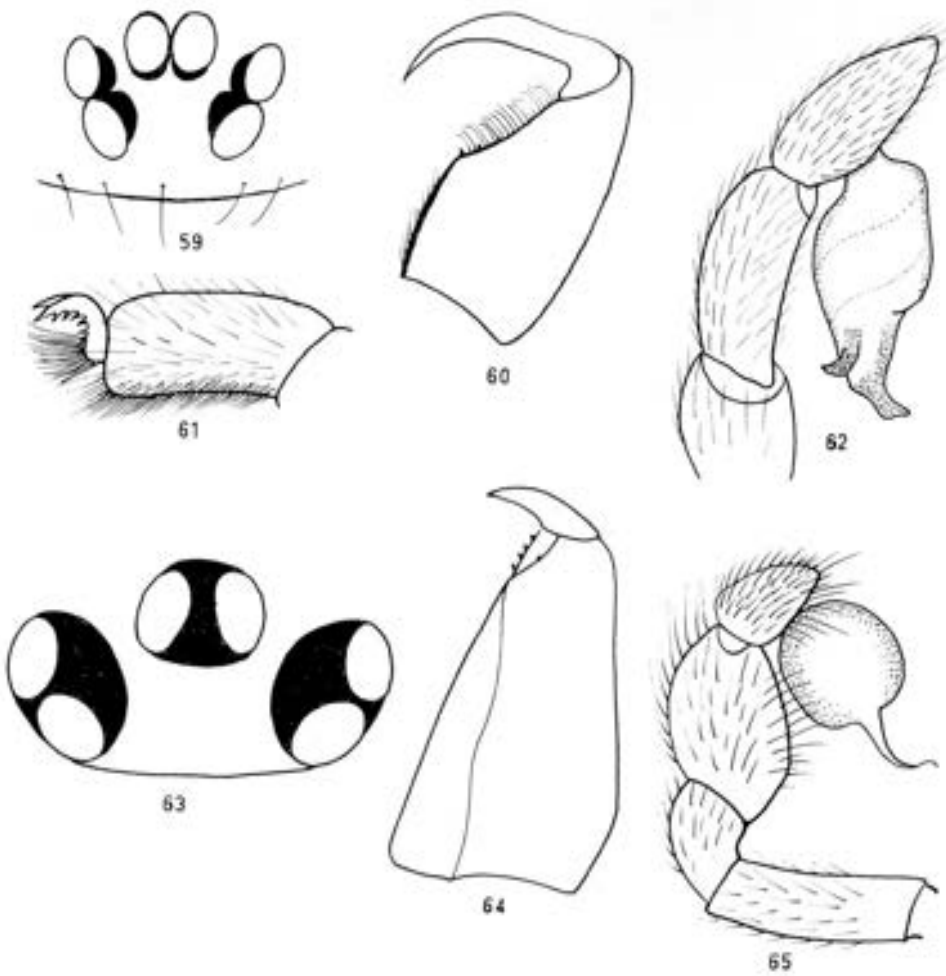
The adult male is about 10.0 mm. in body-length and resembles the female in appearance. The form of the palp is shown in text-fig. 62.

This spider occurs under stones, in crevices in the soil, at the base of bulbs, in garden rubbish heaps and in other situations, where the conditions are not too dry. Although *Dysdera crocata* does not spin a web for the capture of prey, it often encloses itself in a cocoon-like nest of strong white silk. In this nest the female makes her egg-sac. The food of the spider appears to consist largely of wood-lice. Mature males and females occur in the summer and autumn.

The bite of this spider may have serious results. A girl, twelve years of age, was bitten on the hand, while weeding a garden at Lindisfarne. She developed the usual symptons that follow the bite of poisonous spiders and required treatment in hospital for two or three days.

Family **SEGESTRIIDAE**

This group of spiders is regarded by many authorities as a subfamily of the Dysderidae. The members of the group have no hard chitinous connections between carapace and sternum. They have six homogeneous eyes arranged in two rows. The chelicerae are conical and without a lateral boss. The fang is short and strong. The margins of the furrow have few very small teeth or none.



TEXT-FIGURES
59-65

Dysdera crocata

Fig. 59.—Eye-group of female.
Fig. 60.—Chelicera.
Fig. 61.—Tarsus and claws of first leg.
Fig. 62.—Palp of male.

Ariadna segmentata

Fig. 63.—Eye-group of female.
Fig. 64.—Chelicera.
Fig. 65.—Palp of male.

The labium is long and free. The third pair of legs are directed forwards together with the first and second pairs. There are no trichobothria. The tarsi have three claws, the upper pair pectinate. Claw-tufts and tarsal scopulae are lacking. A pair of tracheal spiracles are situated close behind the lung-slits. A cribellum and calamistrum are absent.

The spiders of this group live in silken tubular nests, which may be under loose stones, in crevices in trees or buildings, in grass tussocks, amongst lichens and moss, in holes in trees or in holes in the ground. The mouth of the tube is usually surrounded by a number of radially disposed trip-threads.

Three species belonging to this family have been recorded from Tasmania.

ARIADNA SEGMENTATA Simon, 1893
(Pl. VII, fig. 3)

The adult female has a body-length of about 13.0 mm. The carapace is long ovoid in shape with the sides more or less parallel. It is dark reddish brown in colour and clothed with long silky hairs. The six eyes (text-fig. 63) are about equal in size. The four forming the hind row are in a strongly procurved line. The medians are almost contiguous but well separated from the laterals. The height of the clypeus is about one and a half times the diameter of an anterior eye. The chelicerae (text-fig. 64) are conical with a short stout fang. There are four very small blunt teeth on the promargin and one similar tooth on the retromargin. The labium, maxillae and sternum are dark reddish. The legs are yellowish brown. The first and second pairs are almost equal in length and slightly longer than the body. The third pair are directed forwards. The femora of the first pair have several spines near the apex on the prolateral side. All tibiae and metatarsi are armed with spines. Three tarsal claws are present, the upper claws being provided with nine teeth and the lower claw with one tooth. The abdomen is oblong and varies in colour from light brown to dark brown. In most specimens the dorsal surface has a pattern of five or six transverse black bands. Each band is enlarged in the middle and forms a median point directed towards the front. The two tracheal spiracles are close behind the lung-slits on the ventral surface.

The adult male is about 10.0 mm. in body-length, and resembles the female in general appearance. The legs, however, are longer, the second pair being longer than the others. The form of the palp is shown in text-fig. 65.

This spider lives in a silken tube, which may be constructed under the loose bark of eucalypts, in holes in trees, in crevices of the timber of houses, under loose stones, or in holes in the ground.

Ariadna segmentata was first recorded from Launceston about 72 years ago. It is common in both the north and south of the State.

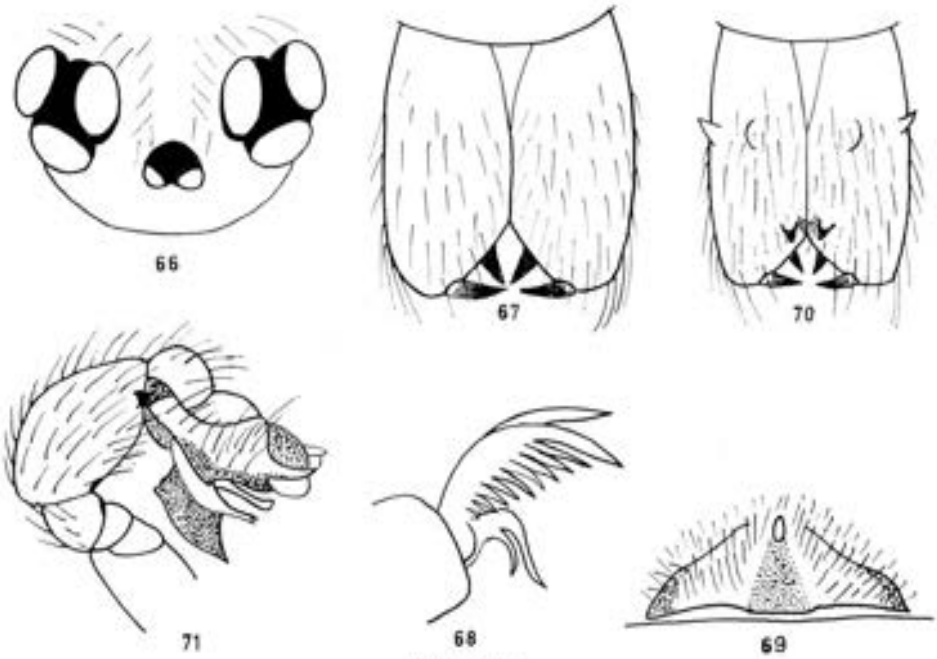
Family **PHOLCIDAE**

Spiders of this family usually have eight heterogeneous eyes. The two lateral eyes and the posterior median of each side form a triad. The chelicerae lack a lateral boss and are fused at the base. The labium is immobile being firmly united to the sternum. The legs are very long, slender and flexible, the tarsi possessing a number of false joints. There are one or two trichobothria on each tibia and one on each metatarsus, but none elsewhere. Three tarsal claws are present. The palp of the female is without a claw. Cribellum, calamistrum and tracheal spiracle are lacking.

PHOLCUS PHALANGIOIDES (Fuesslin, 1775)
(Pl. VII, fig. 4)

This familiar long-legged house-spider is cosmopolitan in its distribution. It has probably been brought into Tasmania by shipping and is the only representative of the family Pholcidae so far recorded from this State.

The adult female is 7.0-9.0 mm. in body-length. The carapace is pale yellow with a median brown patch and is almost as broad as it is long. The



TEXT-FIGURES
66-71
Pholcus phalangioides

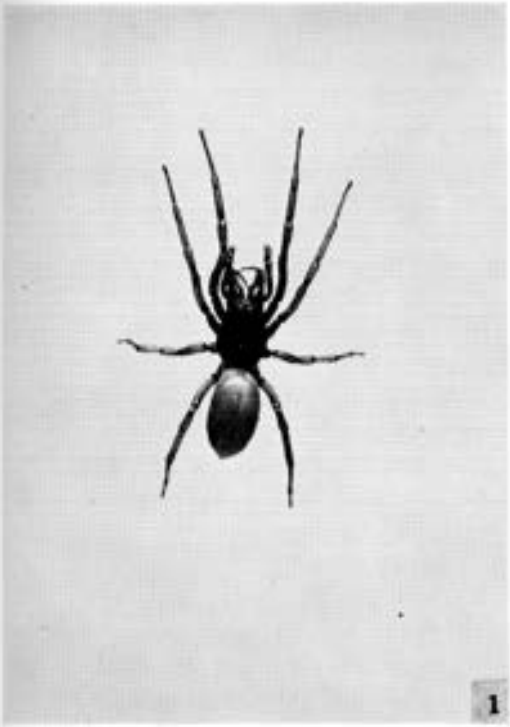
Fig. 66.—Eye-group of female.
Fig. 67.—Chelicerae of female.
Fig. 68.—Tarsal claws.
Fig. 69.—Epigynum.
Fig. 70.—Chelicerae of male.
Fig. 71.—Palp of male.

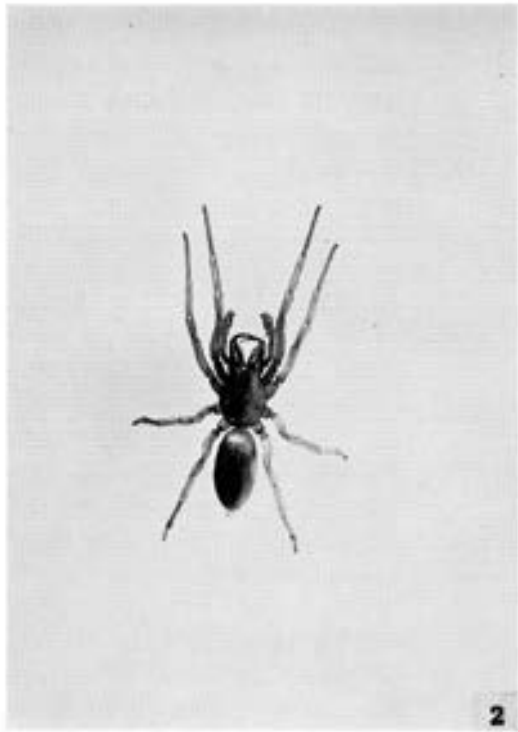
front is narrowed and the sides well rounded. The eight eyes are arranged as shown in text-fig. 66. The chelicerae are fused together at the base. The margins of the furrow are short, transverse and with a single large tooth (text-fig. 67). The lip is wide and immobile. The maxillae are strongly convergent. The legs are very long, fine and flexible. The first pair are about seven times the length of the body. The upper tarsal claws have ten or eleven teeth, the lower claw one large curved tooth (text-fig. 68). The abdomen is greyish brown without any distinct pattern. The form of the epigynum is shown in text-fig. 69.

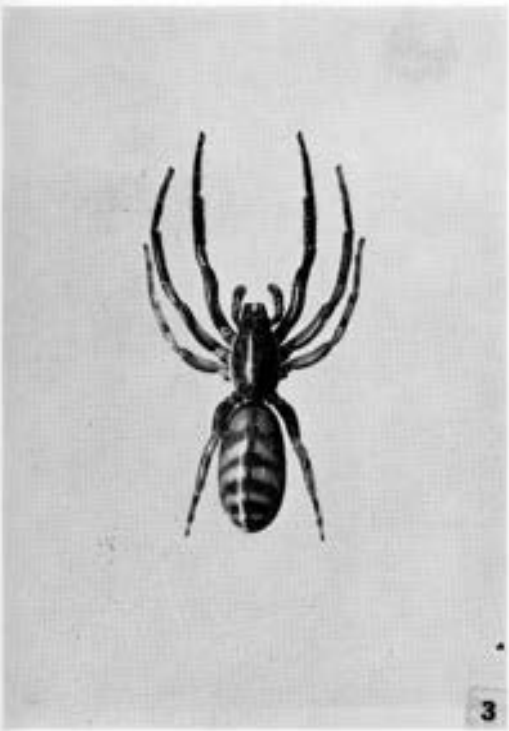
The adult male is about the same size as the female, but its abdomen is more cylindrical. The chelicerae (text-fig. 70) are armed with a dentiform process immediately above the tooth on the margin of the furrow. There is also a pointed projection on the retrolateral side and a low rounded tubercle in the middle of the front (dorsal) surface. The palp is very complex (text-fig. 71).

The web is a large loose irregular structure made in cellars and in the corners of rooms usually near the ceiling. The spider often hangs in its web with the abdomen upward. If disturbed it sometimes shakes its web or swings itself round rapidly. The shaking of the web may aid in the entanglement of any insect that happens to become caught in the threads. When the spider swings itself round rapidly the body becomes somewhat blurred and indistinct. The behaviour may be defensive in nature.

In some countries the spider is called the long-legged cellar spider or the daddy-long-legs spider. This latter name is also applied to a common harvestman







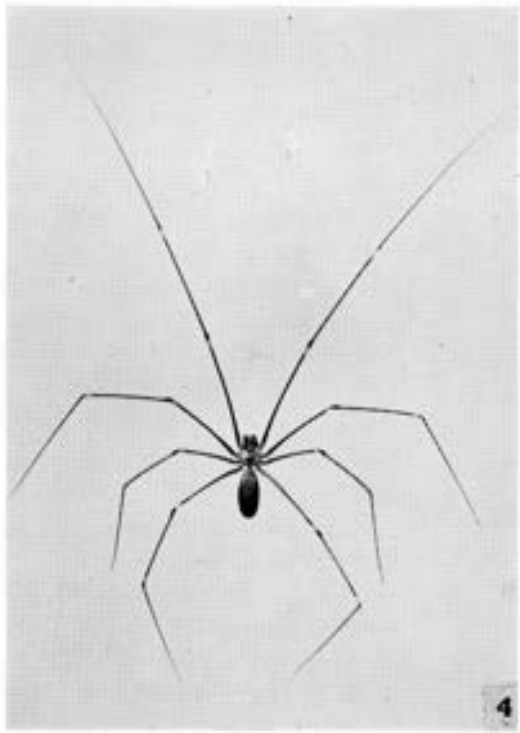


PLATE VII.

Fig. 1.—*Dysdera crocata*, female.
Fig. 2.—*Dysdera crocata*, male.
Fig. 3.—*Ariadna segmentata*, female.
Fig. 4.—*Phalena phalangioides*, male.

found resting on the outside walls of houses during the summer months. As a result the two animals are sometimes confused. The harvestman may be readily distinguished by having only two eyes and spinning no web.

The egg-sac of *Pholcus phalangioides* is exceedingly frail and thin, consisting of only a few threads. The mass of eggs adheres together and is carried by the chelicerae of the female.

The spider is very common in houses in Hobart, Launceston and other towns in Tasmania, but does not occur in the bush.

Family **THERIDIIDAE**

The spiders of this family usually have eight heterogeneous eyes arranged in two transverse rows that are more or less parallel. The clypeus is generally high. The chelicerae are small, without a lateral boss and with the furrow margins usually transverse. Teeth may be lacking or there may be one to three teeth present, generally on the promargin only. The labium is not swollen distally. The legs are without spines on the tibiae and metatarsi. The fourth pair of legs usually have a ventral row of serrated bristles on the tarsi. This structure is referred to as a comb and gives to the family the common name of Comb-footed Spiders. There are three tarsal claws, which may be pectinate or smooth. Spurious claws are also present. There are six spinnerets, the anterior pair close together and stouter than the hind pair. A colulus occurs immediately in front of the spinnerets or may be represented by a pair of bristles. A cribellum and calamistrum are lacking.

Most members of the family spin irregular webs. The egg-sac is generally more or less spherical. Tasmanian species are numerous. Most of them are small and have not been identified or described.

LATRODECTUS HASSELTI Thorell, 1870
(The Red-back Spider)
(Pl. VIII, fig. 1)

This poisonous spider is known by various common names such as the Red-back, Red-spot, Red-striped and Jockey Spider. Professor H. W. Levi (1959), who has examined specimens from Tasmania, considers the species as a variety of the widely distributed American Black Widow Spider, *Latrodectus mactans* (Fabricius).

The spider is very common in many parts of Tasmania. In the vicinity of Hobart it occurs at The Queen's Domain, Mount Nelson, Risdon, Lindisfarne and elsewhere. In Launceston it may be found at Trevallyn, Hillside Crescent, Lawrence Vale and the Punch Bowl Reserve. On the East Coast it has been recorded from Swansea and Maria Island. Occasionally correspondents writing to the Press claim to have discovered the spider for the "first time" in Tasmania. However, it has been recorded from this State several times during the last seventy years. As long ago as 1891 Mr Alex. Morton, then Curator of the Tasmanian Museum, sent specimens of the spider from Tasmania to the New Zealand arachnologist, Mr A. T. Urquhart, for comparison with the venomous New Zealand spider known as the Katipo. Mr Urquhart regarded both spiders as belonging to the same species and his opinion has been confirmed by later authorities.

The adult female has a body-length of about 10.0 mm. The general colour is black, but the abdomen has a median red band above and a red mark below. The latter has the form of a square with the right and left sides excavated. In immature specimens the dorsal pattern varies considerably. The carapace is low and the front narrowed. The eight eyes (text-fig. 72) are in two transverse rows, the front row slightly procurved and the hind row slightly recurved. The lateral eyes of each side are well separated from each other. The thoracic fovea is deep and transverse. The radial grooves are well marked. The chelicerae (text-fig. 73) have sharp fangs. The margins of the furrow are short, transverse, and without teeth. The labium is large and semicircular. The sternum is flat, triangular, longer than wide and ends in a point between the fourth coxae. The legs are moderately long, the first pair longer than the others. The comb below the tarsi of the hind legs consists of a row of twelve coarse setae, each having two sinuous teeth (text-fig. 16). The upper tarsal claws are strongly curved and furnished with four teeth, the lower claw has two teeth. The abdomen is globose. In front of the anterior spinnerets is a large colulus furnished with several setae (text-fig. 74). The epigynum has the form shown in text-fig. 75.

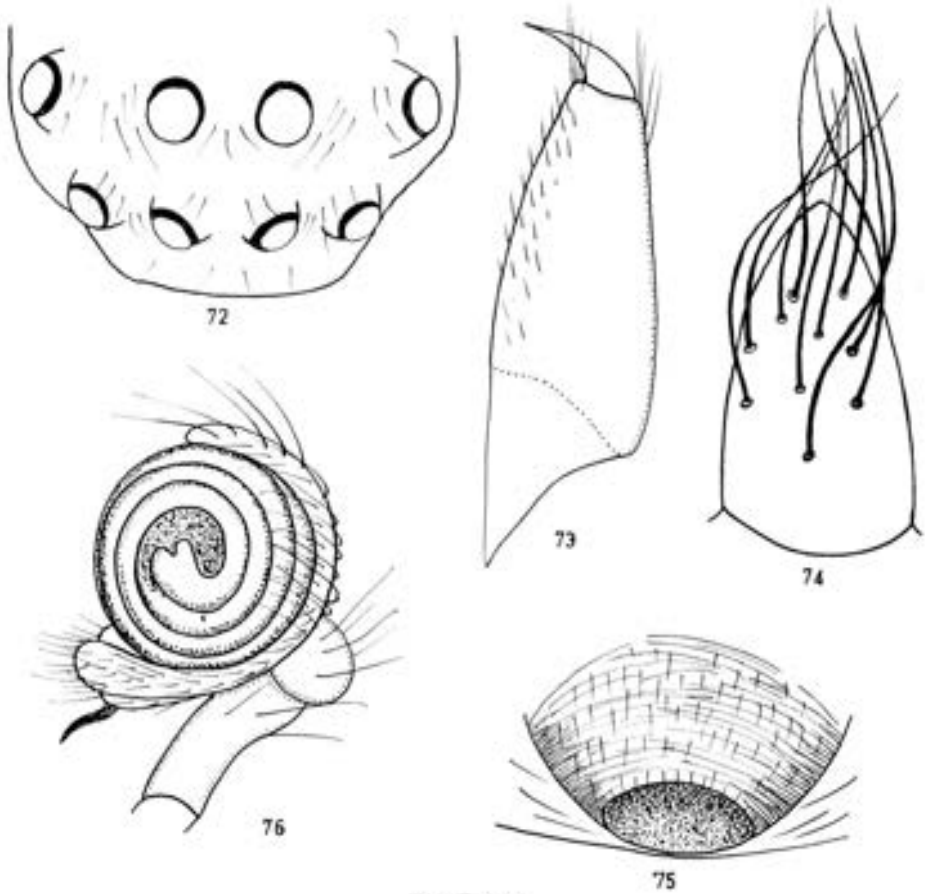
The adult male has a body-length of about 3.3 mm. and is very different from the adult female. The carapace is brown with two longitudinal lighter areas, one on each side of the mid-line. The abdomen is mainly white with about four oblique marks on each side. Near the front of the dorsal surface is a triangular brownish mark bordered with black. This is followed by a transverse brown bar also bordered with black. The posterior half of the dorsal surface has a median orange band, on each side of which is an elongate irregular dark mark. The form of the palp is shown in text-fig. 76. The embolus is long and wound in a close coil of three turns.

In Tasmania *Latrodectus hasselti* usually occurs in sunny lightly timbered areas, where there are loose rocks and stones. However, gardens and industrial areas adjacent to the normal habitat may also become populated by the spider. The web is made in many different situations but usually at the side of a stone that has a cavity or space below it. The spider hides under the stone and spins its network of threads out from its retreat over the neighbouring grass and herbage. If the retreat has been occupied for some time, it may be lined by a lace-work of threads incorporating the remains of the numerous insects and other prey on which the spider has fed. Garden rockeries, walls of loose stones, timber stacks, junk heaps and old tins are other situations often occupied by the spider.

The egg-sacs are almost spherical, about 10.0 mm. in diameter and made of strong yellowish silk. They are usually found suspended in the spider's retreat during the months November to February. Four or five egg-sacs may be made by the one spider during the four months. The number of eggs counted in twenty different sacs varied from 42 to 309. The time taken for the eggs to hatch and the young to emerge from the egg-sac is largely dependent on temperature conditions. Thus young emerged from egg-sacs made in November in about 70 days, whereas from egg-sacs made in January they emerged in about 50 days.

The bite of the Red-back Spider is extremely dangerous. However, an effective antivenin has been prepared by the Commonwealth Serum Laboratories

and Dr R. V. Southcott (1961) has shown that it may prove beneficial even when given eighty hours after the bite. In all cases medical attention should be obtained without delay.



TEXT-FIGURES
72-76
Latrodectus hasselti

Fig. 72.—Eye-group of female.
Fig. 73.—Chelicera.
Fig. 74.—Colulus.
Fig. 75.—Epigynum.
Fig. 76.—Palp of male.

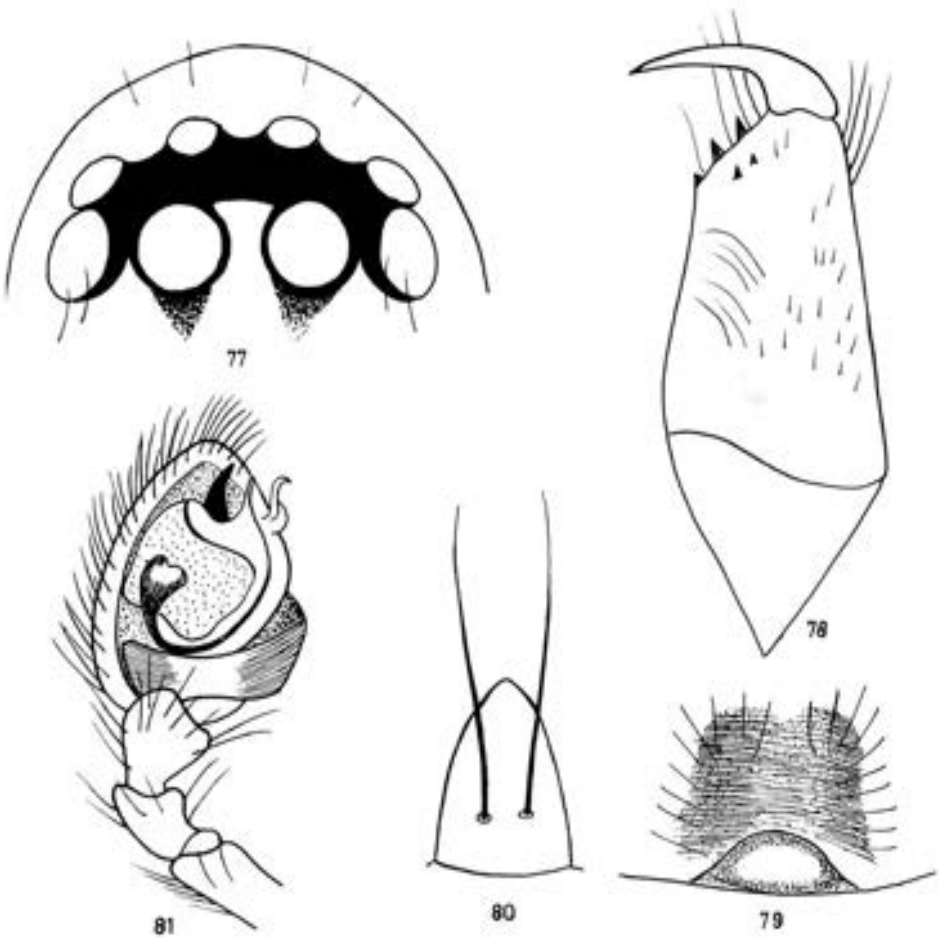
STEATODA LIVENS (Simon, 1895)
(Pl. VIII, fig. 2)

This spider was originally described under the name of *Ancocoelus livens*. The genus **Ancocoelus** Simon is now considered synonymous with **Steatoda** Sundevall (H. W. & L. R. Levi, 1962).

The species is one of the most common comb-footed spiders in Tasmania and occurs in most parts of the State.

The adult female has a body-length of about 5.8 mm. The carapace is reddish brown with a narrow black margin. The ocular area is also mainly black. The eight eyes (text-fig. 77) are in two transverse rows, the front row procurved and the hind row recurved. The posterior eyes are larger than the anterior ones. The median ocular area is slightly narrower in front than behind.

The chelicerae (text-fig. 78) have three teeth on the promargin, the basal one of which is small. The retromargin has two very small teeth. The legs are reddish yellow with the femora darkened towards the apex. The first and fourth pairs are equal in length and longer than the second pair. The comb below the tarsi of the fourth pair of legs is formed by a row of about 10 setae, each of which has four or five fine teeth. The upper tarsal claws have nine or ten teeth and the lower claw two. The abdomen is large and broadly ovoid. In front it overhangs the base of the carapace. The dorsal surface is dark brown and shining. In some specimens there are two small white spots near the middle and widely separated transversely. Posteriorly there is also a median row of two or three small white triangular spots. These markings, however, are not constant and may be lacking or very faint. They are more pronounced in immature specimens. The epigynum has the form shown in text-fig. 79. A large colulus with two long basal setae is present (text-fig. 80).



TEXT-FIGURES
77-81
Steatoda livens

Fig. 77.—Eye-group of female.
Fig. 78.—Chelicera.
Fig. 79.—Epigynum.
Fig. 80.—Colulus.
Fig. 81.—Palp of male.

The adult male has a body-length of 4.6 mm. and resembles the female in colouration and markings. The front of the abdomen has a hard chitinous plate surrounding the petiolus. The plate carries several stiff bristles that rub against a series of transverse ridges on the base of the carapace and probably serve a stridulating function. The form of the palp is shown in text-fig. 81.

The spider is usually found on the under surface of loose stones and rocks or amongst fallen bark. The web consists of a small irregular network of threads, some of which have adhesive droplets similar to those on the viscid spiral of webs made by many Argiopids.

The egg-sac is spherical and suspended in the web. It is composed of white fluffy silk and is about 10.0 mm. in diameter.

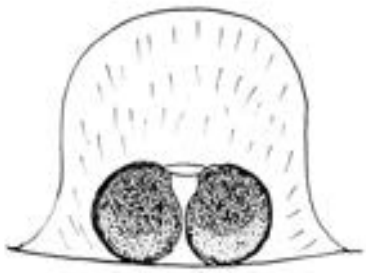
THERIDION PROPERUM Keyserling, 1890
(Pl. VIII, fig. 3)

The web of this spider is often seen on the outside walls of houses and also on fences. It is also frequently observed extending from crevices in eucalypts and other trees. The spider is common and widely distributed in Tasmania.

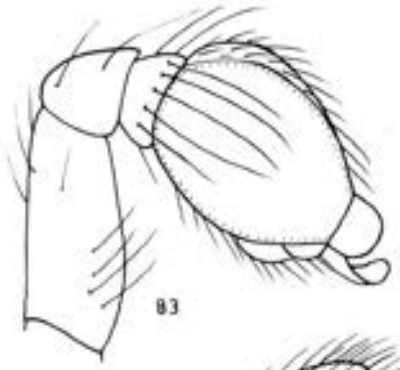
The adult female is about 5.4 mm. in body-length. The carapace is brown on the thoracic region and somewhat lighter on the head part. A dark brown median band, which includes the full width of the ocular region, extends to the fovea. The eight eyes are in two transverse rows. Viewed from above the front row appears strongly recurved and the hind row almost straight. The front median eyes are larger than the others. The median ocular area is about as wide as it is long and very slightly wider in front than behind. Below the front row there is a transverse groove. The chelicerae have a very short transverse furrow with two teeth on the promargin and none on the retromargin. The mouth parts, sternum, palps and legs are reddish brown, the tibiae and metatarsi of the legs being ringed with dark brown. The comb below the tarsi of the fourth pair of legs is composed of a row of nine setae, each having about five teeth. The upper tarsal claws have four teeth and the lower claw one tooth. The abdomen is ovoid and somewhat pointed posteriorly. It is yellowish in colour and densely speckled with brown and black spots. Extending from the front to the middle of the dorsal surface is a median black mark in the form of the head of a lance. On each side are several indistinct oblique black bands. In some specimens the abdomen is so thickly speckled with black that the pattern is obscured. The ventral surface has a white patch immediately behind the epigynum. The spinnerets are surrounded by a dark ring. The form of the epigynum is shown in text-fig. 82.

The adult male is about 3.43 mm. in body-length and is somewhat lighter in colouration than the female. The form of the palp is shown in text-fig. 83. Males are usually found in the webs of the females during December.

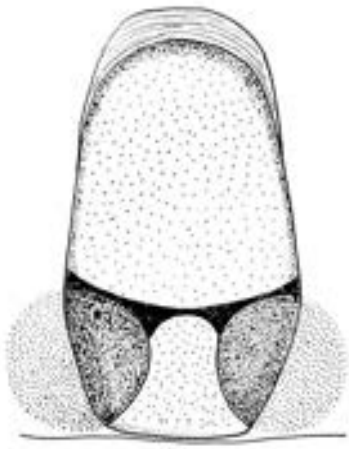
The web is a typical irregular net-work of threads leading into the corner or crevice that forms the spider's retreat. The egg-sac is more or less spherical and about 5.0 mm. in diameter. It is composed of grey fluffy silk, the outer layer usually incorporating the remains of insects and other particles of debris.



82



83



85

84

86

TEXT-FIGURES 82-86

Theridion proserum
Fig. 82.—Epigynum.
Fig. 83.—Palp of male.

Euryopis elegans
Fig. 84.—Claw of female palp.
Fig. 85.—Epigynum.
Fig. 86.—Palp of male.

EURYOPIS ELEGANS Keyserling, 1890
(Pl. VIII, fig. 4)

This small spider usually occurs under the loose bark on eucalypts. It was originally recorded from Queensland but has also been found in Western Australia and is common in Tasmania.

The adult female has a body length from 3.0 to 5.1 mm. The carapace is as wide as it is long, rounded at the sides and narrowed in front. It is dark brown in colour. The fovea is a short longitudinal groove and the radial furrows indistinct. The height of the clypeus is about equal to the length of the chelicerae. Viewed from above the front row of eyes is strongly recurved and the hind row weakly recurved. The anterior median eyes are larger than the others. The lateral eyes of each side are contiguous. The chelicerae are small with a large curved fang. The margins of the furrow short and without teeth. The claw of the palp is transverse and has the appearance of a small rake with about 20 teeth (text-fig. 84). The legs are yellowish with brown rings. The comb below the tarsi of the fourth pair of legs is composed of a row of about six weakly toothed setae. There are three tarsal claws. The upper claws are dissimilar. In the case of the first legs the proclaw has 13 teeth on the pro-

lateral side and one on the retrolateral side near the apex. The retroclaw has 9 prolateral teeth and none on the retrolateral side. The lower claw has two teeth. The upper claws of the hind legs have about seven teeth and the lower claw two. The abdomen is slightly longer than wide, rounded in front, pointed behind and somewhat flat above and below. It is silvery white on the dorsal surface with a large brown median mark, which is wide in front and narrows to a point above the spinnerets. The sides of the mark form a series of small projections or lobes. The lateral surface of the abdomen is also silvery white with a few small dark marks. The ventral surface is brown with a pair of silvery spots, one on each side in front of the spinnerets. A colulus is absent. The epigynum has the form shown in text-fig. 85.

The adult male has a body-length of about 2.6 mm. It resembles the female in colour and markings. The palp has the form shown in text-fig. 86.

Family **MIMETIDAE**

The Mimetidae are a small family of spiders. They have eight heterogeneous eyes arranged in two transverse rows. The chelicerae lack a lateral boss and are usually long and vertical. The promargin of the furrow is provided with movable spine-like teeth. The labium is free and the maxillae converging. The legs have numerous spines. The tibiae and metatarsi of the first and second pairs of legs have a promarginal row of long spines separated by a series of shorter curved spines. Three tarsal claws together with spurious claws are present. Trichobothria occur in two rows on the tibiae but only a single trichobothrium is present on the metatarsi. A cribellum and calamistrum are lacking. There are six spinnerets and a colulus.

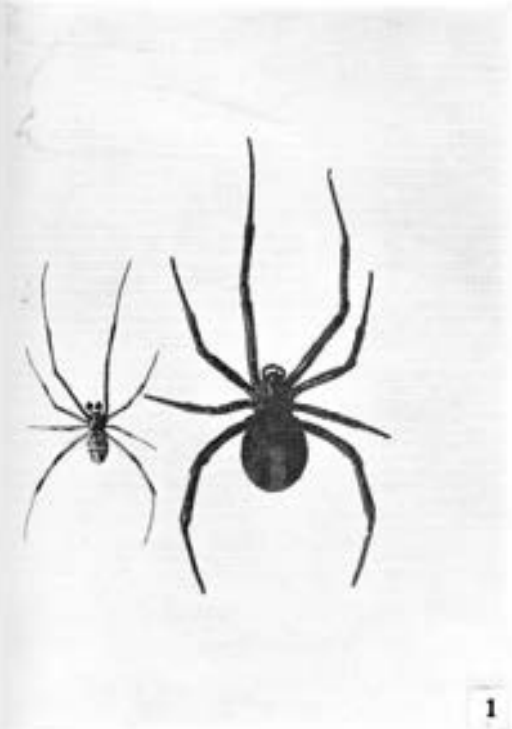
The spiders of this family do not spin a web for the capture of prey and apparently do not feed on insects. They are predatory on other spiders, especially on the Theridiidae.

Three species have been recorded from Tasmania and at least two other members of the family occur here.

MIMETUS AUDAX Hickman, 1929
(Pl. IX, fig. 1)

This species occurs in both the north and south of the State. Specimens have been found at Hillside Crescent in Launceston and on Queen's Domain, Hobart.

The adult female has a body-length of about 5.4 mm. The carapace is dull yellow with a median patch of brown and some smaller brown spots on each side. The eight eyes are in two rows. Viewed from above the front row appears strongly recurved and the hind row almost straight or very slightly recurved. The front median eyes are the largest of the group and are mounted on a rounded tubercle projecting over the clypeus. The laterals are also mounted on small tubercles and are contiguous. The chelicerae (text-fig. 87) are long and narrow with a short curved fang. The promargin has nine or ten long spine-like teeth and the retromargin two small ordinary teeth. The first pair of legs are about 8.8 mm. long and are longer than the others. All the legs



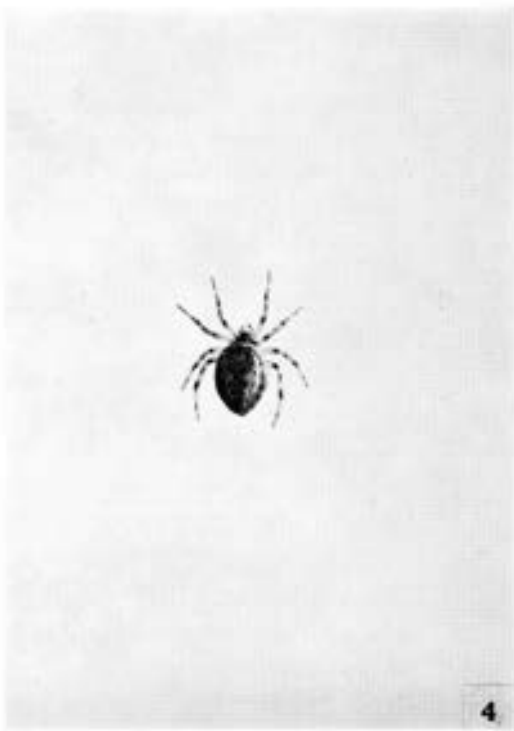


PLATE VIII.

Fig. 1.—*Latrodectus hasselti*, male and female.
Fig. 2.—*Steatoda livens*, female.
Fig. 3.—*Theridion properum*, female.
Fig. 4.—*Euryopis elegans*, female.

are spinose. The spines on the prolateral side of the tibiae and metatarsi of the first two pairs are arranged in the manner characteristic of the family (text-fig. 88). The upper tarsal claws have four or five teeth, the lower claw one tooth. All the legs are speckled and ringed with dark brown especially on the femora. The cordiform sternum is brown with a yellowish margin. The abdomen is more or less ovoid, rounded and wide in front, narrow posteriorly. On each side of the upper surface near the middle is a slight hump. The front of the dorsal surface is spotted with dark brown, the posterior half marked with a triangular cream folium extending from the two humps to the spinnerets. The sides of the abdomen are dark brown and the lower surface spotted with brown. The whole surface is clothed with short curved bristles. The form of the epigynum is shown in text-fig. 89. The anterior spinnerets are wide and close together. A small colulus is present. The male of this spider has not been recorded.

Mimetus audax is a rather sluggish spider that shows little inclination to move even when touched. It is generally found resting on the under surface of loose stones in localities where the Red-stripe Spider (*Latrodectus hasselti*) also occurs. Sometimes the mimetid lives in the web of the Red-stripe Spider and preys on the young, when they emerge from the egg-sac.

Family **LINYPHIIDAE**

The spiders of this family have eight heterogeneous eyes arranged in two transverse rows. The chelicerae are without a lateral boss and usually have stridulating ridges on the retrolateral surface. The margins of the furrow are oblique and dentate. The labium is free and rebordered. The legs have few spines. Three tarsal claws are present, the upper pair toothed. Spurious claws are also present. Trichobothria are confined to a few on the tibiae, one on the metatarsi and none elsewhere. The palp of the female has a claw. The palp of the male has a paracymbium. There is no apophysis on the tibia. Six spinnerets and a colulus are present. A cribellum and calamistrum are lacking.

The Linyphiidae weave fine sheet webs or in some cases dome-shaped webs, which are usually placed on low shrubs, cliffs, trunks of trees or in other situations. In most cases the webs are only a few feet from the ground and often close to the ground.

Only four members of the family have been recorded from Tasmania. However, our fauna contains a large number of unidentified species. Most of them are small and escape observation.

BATHYPHANTES QUINDECIMPUNCTATA (Urquhart, 1893)
(Pl. IX, fig. 2)

This spider, which is widespread in Tasmania, was placed by Urquhart in the genus **Linyphia.** However, its characters show a much closer relationship with the genus **Bathyphantes** Menge 1866, and it is therefore transferred to that genus.

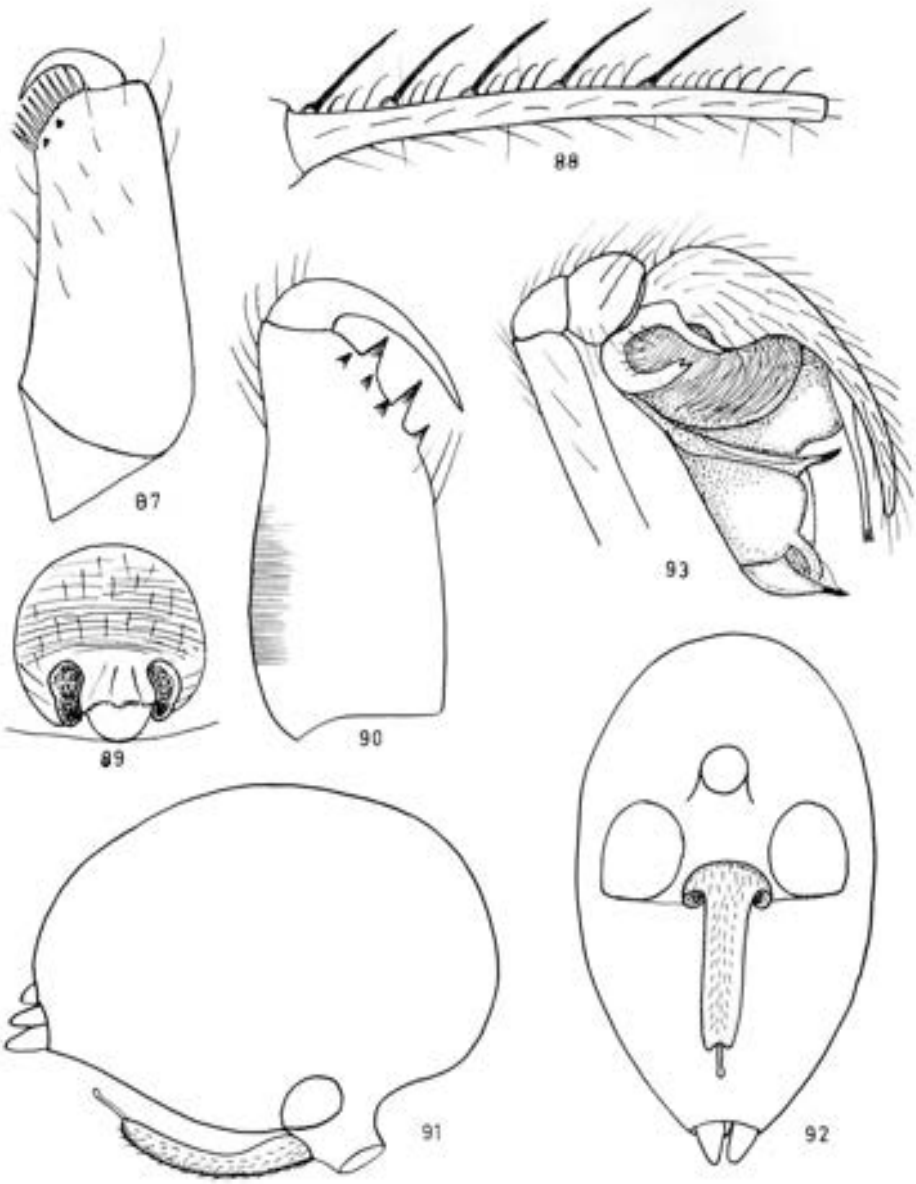
The adult female has a body-length of about 5.0 mm. The carapace is yellowish brown with the head region dark brown and the thorax marked with greenish brown. The fovea is oval, deep and longitudinal. The eight eyes are

nearly equal in size, mounted on dark rings and arranged in two rows. Viewed from above the front row is recurved and the hind row slightly procurved. The posterior median eyes are separated from each other by about 5/7 of their diameter and from the posterior lateral eyes by twice this distance. The anterior median eyes are separated from each other by 1/3 of their diameter and nearly twice as far from the lateral eyes. The chelicerae (text-fig. 90) are dark brown with very fine stridulating ridges on the retrolateral surface. The furrow is oblique and has three large teeth on the promargin and three much smaller teeth on the retromargin. The maxillae are yellowish brown with a dark brown base. The labium is brown with a yellow apex. It is free, moderately wide and rebordered. The sternum is cordate, dark brown and nearly as wide as long. The legs are yellowish with dark brown rings. The first pair are the longest and about four times the length of the carapace. The second and fourth pairs are about equal and slightly shorter than the first pair. The metatarsi and tibiae of the first legs are equal in length, but in the other legs the metatarsi are longer than the tibiae. There is a single spine above each femur; two long bristles on each patella. The tibiae of the first and second legs have two dorsal, two prolateral, one retrolateral and four ventral spines. The tibiae of the third and fourth legs have two dorsal, one prolateral, one retrolateral and three ventral spines. Each metatarsus has a single dorsal spine and there is also a single prolateral spine on the first, second and third metatarsus. Several trichobothria are present on each tibia and a single trichobothrium, about 1/5 of the length of the segment from the base, on the first, second and third metatarsus, but none on the fourth. The upper tarsal claws have about eleven teeth and the lower claw a single tooth.

The abdomen is long ovoid in shape. The ground colour is a dull yellowish green flecked with white above and at the sides. On the dorsal surface are two longitudinal rows of seven large brown spots, and a median spot above the spinnerets. The anterior spots tend to fuse into a continuous brown area. Several smaller brown patches occur in the median position. The epigynum is provided with a very long curved scapus extending backwards nearly to the spinnerets (text-figs. 91 & 92). The scapus is emarginate at its posterior end and grooved on its dorsal surface. Lying in the groove is a slender translucent parmula, which extends beyond the posterior extremity of the scapus and terminates in a spoon-shaped apex. A wide median area of the ventral surface of the scapus is clothed with setae but the lateral margins are bare.

The adult male resembles the female in size, colouration and markings. The form of the palp is shown in text-fig. 93. The tarsus (cymbium) is long and tapering. The paracymbium is sickle-shaped and furnished with a row of setae. The terminal apophysis is long, slender and bifid at the tip.

The spider makes a delicate sheet web, about 10 to 12 cm. in diameter. It is suspended by a number of vertical threads and is placed on shrubs, cliffs, bases of trees and many other sites. On misty mornings, when the webs are rendered more easily visible by droplets of moisture, they may be seen in large numbers on cypress hedges in most gardens.



TEXT-FIGURES
87-93

Mimetus audax
Fig. 87.—Chelicera of female.
Fig. 88.—Metatarsus of first leg.
Fig. 89.—Epigynum.

Bathyphantes quindecimpunctata
Fig. 90.—Chelicera of female.
Fig. 91.—Side view of adbomen showing scapus.
Fig. 92.—Ventral view of abdomen showing scapus.
Fig. 93.—Palp of male.

Family **ARGIOPIDAE**

The spiders of this family have eight eyes, which are usually homogeneous. The chelicerae generally have a lateral boss and a scopula. The margins of the fang furrow are oblique and dentate. Stridulating ridges are never present on the chelicerae. The labium is free and rebordered. The maxillae are more or less parallel and widened distally. The legs are usually armed with strong spines.

Three tarsal claws and also spurious claws are present. There is no comb below the fourth tarsi. Trichobothria are present on tibiae and metatarsi but not on tarsi. Six spinnerets and a colulus form a close group. The anterior and posterior spinnerets are conical, about equal in size and arranged in a square. The median spinnerets are small and cylindrical. A cribellum and calamistrum are absent.

Members of the Argiopidae that make webs build the familiar orb web. In typical cases an orb web consists of a number of threads or **radii,** which extend out from a centre or **hub** to points of attachment. Surrounding the hub is the so called **notched zone** formed by a non-adhesive thread spun in a spiral having only a few turns. Beyond this is the **free zone,** which is not traversed by a spiral thread. Outside the free zone is the **viscid spiral,** the thread of which bears little adhesive droplets. This is the main part of the snare and is designed to capture the various flying insects that form the spider's prey. A comparatively small number of spiders in this family do not spin a web, but merely wait for their prey to come near enough to be caught.

Only about twenty species belonging to this extensive group have been recorded from Tasmania.

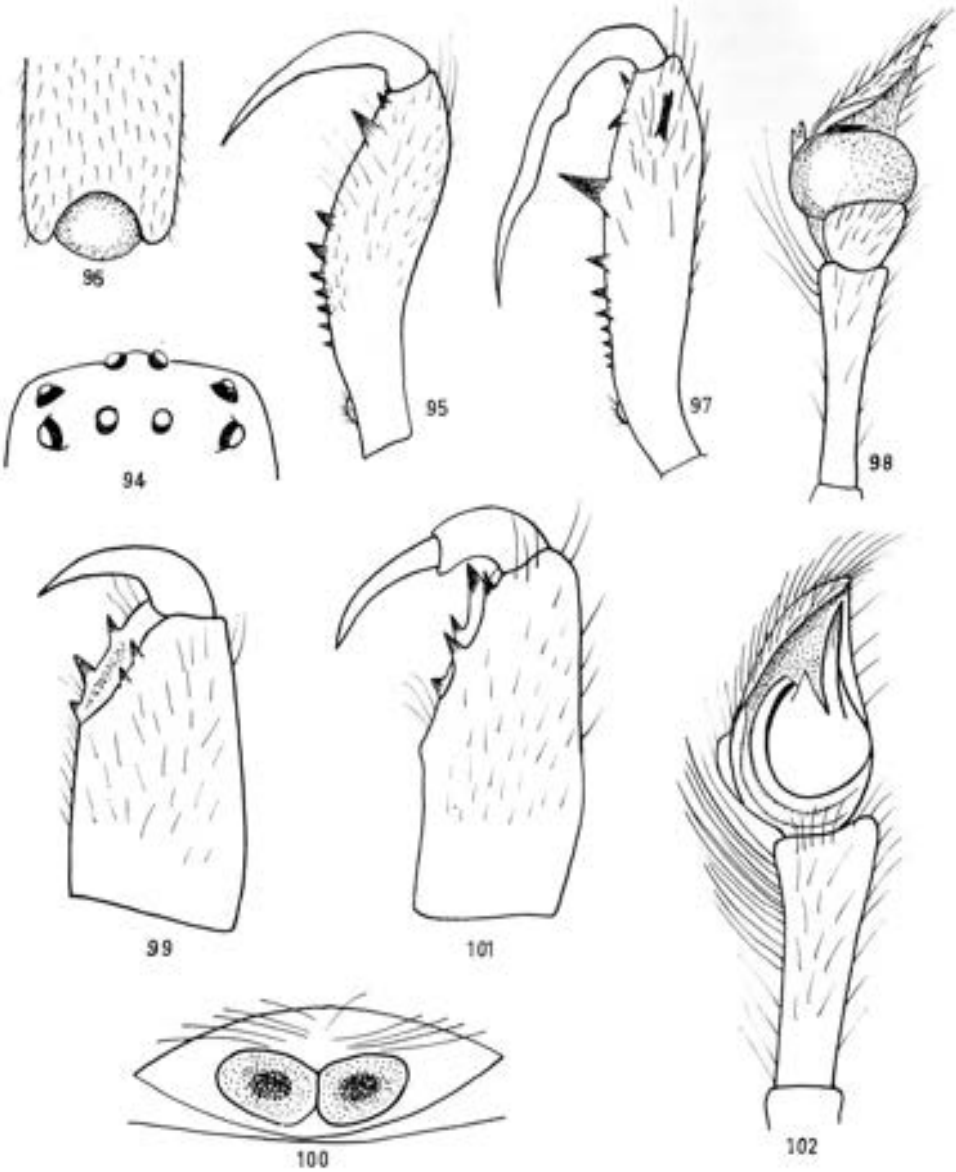
TETRAGNATHA VALIDA Keyserling, 1887
(Pl. IX, fig. 3)

Specimens of this spider have been collected at many different localities in Tasmania, notably St. Helens, Bridport, Launceston, Forth Falls and Hobart.

The adult female has a body-length of about 15.0 mm. The carapace, palps, and legs are reddish brown; the sternum and labium brown. The abdomen has a dark longitudinal band below and above. The sides are marked with silvery flecks. There is some variability in markings. The carapace is about equal in length to the third femur, and nearly twice as long as wide. The fovea is deep and horseshoe-shaped. When viewed from above the front and hind rows of eyes both appear recurved (text-fig. 94). The anterior median eyes are mounted on a tubercle, that projects over the clypeus. The chelicerae (text-fig. 95) are about 3.7 mm. long, project forwards and are strongly divergent. Both margins of the furrow are provided with teeth. The front legs are more than twice the length of the body. The abdomen is long, narrow and slightly tapering. Its length is about four times its width in front. There is no strongly chitinized epigynum. The form of the region covering the genital aperture is shown in text-fig. 96.

The adult male is about 12.0 mm. in body-length and resembles the female in general appearance. However, the chelicerae (text-fig. 97) are somewhat different. The fang is longer and more sinuous. A bifid apophysis projects from the upper surface in the distal quarter. The form of the palp is shown in text-fig. 98.

The spider, like other members of the genus, is usually found in the vicinity of creeks and tarns. It spins an orb web, which is suspended in an inclined or horizontal position over water. Usually the web is attached to overhanging reeds or branches of shrubs, but sometimes to rocks. Mature males and females may generally be found in January.



TEXT-FIGURES 94-102

Tetragnatha valida
Fig. 94.—Eye-group of female.
Fig. 95.—Chelicera of female.
Fig. 96.—Epigynum.
Fig. 97.—Chelicera of male.
Fig. 98.—Palp of male.

Phonognatha melania
Fig. 99.—Chelicera of female.
Fig. 100.—Epigynum.
Fig. 101.—Chelicera of male.
Fig. 102.—Palp of male.

PHONOGNATHA MELANIA (L. Koch, 1871)

(Plate IX, fig. 4)

This leaf-curling spider is widely distributed in Australia. It was originally described by Koch under the name *Epeira melania*. In 1894 Simon made it the type species of a new genus, **Singotypa.** Dr C. D. Dondale (1966) in his recent account of the orchard spiders of the Australian Capital Territory has

examined the status of the two closely related genera, **Phonognatha** and **Singotypa.** He considers that they are synonymous and therefore renames this leaf-curling spider *Phonognatha melania.*

The spider is widespread in the north, east and south of Tasmania. It is particularly common in the bush near Hobart and Launceston.

The mature female has a body-length of 9.0 to 12.0 mm. The carapace and appendages are mainly yellowish brown, the ends of the tarsi being dark brown. The abdomen is dull yellow above and at the sides. On the dorsal surface near the front are two divergent dark elongate spots and behind them two other dark patches. The rounded posterior end of the abdomen is dark with an oblique mark on each side. The spinnerets and lung covers are yellowish brown. Behind the epigynum is a dark shield-shaped area with a narrow white band on each side. Passing obliquely upward from the white bands and the spinnerets are several dark stripes. The eyes are in two rows. The front median eyes project over the clypeus and are further from the laterals than from each other. The median ocular area is almost square. The lateral eyes occupy a common tubercle and are nearly contiguous. Viewed from above the front row is recurved and the hind row almost straight. The chelicerae (text-fig. 99) are stout, geniculate and provided with well developed lateral condyles. The fang is strong and curved. The promargin of the furrow has three teeth, the median tooth being the largest. The retromargin has two teeth. The legs are rather slender. The first pair are the longest and have the femora slightly bowed. The tibiae are armed with a few weak spines. The first and second metatarsi curve downwards. The upper tarsal claws have from seven to ten teeth, the lower claw two. The sternum is cordate with weak lateral elevations. The abdomen is somewhat elongate, rounded in front and behind, and slightly wider posteriorly than anteriorly. The spinnerets are situated almost in the middle of the ventral surface, being slightly nearer the epigastric furrow than the posterior end of the abdomen. The epigynum has the form shown in text-fig. 100.

The adult male is about 6.0 mm. in body-length and has the same colouration and markings as the female. However, the chelicerae (text-fig. 101) are more slender and the fang longer with its basal third thickened. The apical tooth on the promargin of the furrow is much larger than the others. The form of the palp is shown in text-fig. 102.

The web made by this spider is generally suspended about three or four feet from the ground among shrubs in sunny lightly wooded areas. It is an incomplete orb, with an irregular network of threads above. At the hub the spider invariably attaches a curled leaf, which serves as a retreat and is occupied by the spider during the daytime. In January it is not unusual to find a male and female in the one retreat. The female also wraps her egg-sac in a folded leaf, which helps to protect and conceal it.

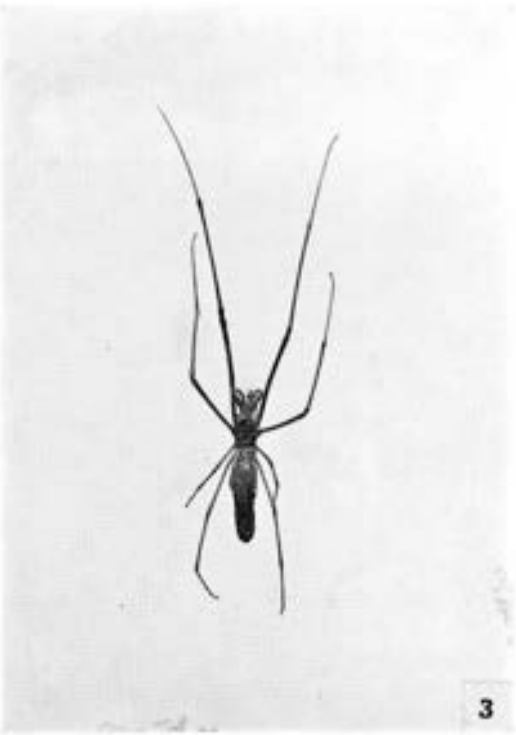


PLATE IX.

Fig. 1.—*Mimetus audax*, female.
Fig. 2.—*Bathyphantes quindecimpunctata*, female.
Fig. 3.—*Tetragnatha valida*, female.
Fig. 4.—*Phonognatha melania*, female with curled leaf from centre of web

ARGIOPE TRIFASCIATA (Forskål, 1775)

(Pl. X, fig. 1)

This very beautiful spider has a cosmopolitan distribution. In Tasmania it has been found at both Launceston and Hobart, where it sometimes occurs in gardens. In America it is known as the Banded Garden Spider.

The adult female has a body length of 13.0-25.0 mm. The carapace is brownish yellow, but the colour is concealed by a dense clothing of fine silvery white hairs. The chelicerae are coloured brown with some yellow. The maxillae and labium are brown basally and yellow towards the apex. The sternum is dark brown with a broad median yellow stripe. The legs are reddish brown ringed with black. The tarsi and distal end of the metatarsi are wholly black. The abdomen is brownish yellow above, clothed with silvery white hair and crossed by a number of thin black lines. On the posterior half there are several longitudinal dark lines. The sides of the abdomen are brownish yellow flecked with black. On the ventral surface two bright yellow longitudinal stripes enclose a long dark-brown area marked with three pairs of white spots. The spinnerets are brown.

The carapace is very slightly longer than broad, rounded at the sides and narrow in front. The fovea is deep and transverse. Viewed from above the front row of eyes is recurved and the hind row procurved. The four median eyes are on an elevated part of the head. The anterior eyes project over the clypeus. The median ocular quadrangle is longer than broad. The lateral eyes are mounted on a common tubercle. The chelicerae are stout and inclined slightly backward. The fang short and well curved. The promargin of the furrow has three teeth and the retromargin four. There is also an intermediate group of minute denticles in the furrow itself. The sternum is cordate with slight tubercles opposite the first three pairs of coxae. The first, second and fourth pairs of legs are almost equal in length. All the legs have spines on the femora, patellae, tibiae and metatarsi. The upper tarsal claws have ten teeth and the lower claw two. The abdomen is somewhat ovoid, rounded at the sides and pointed in front and behind. The epigynum (text-fig. 103) has two lateral cavities separated by a septum. The spinnerets are slightly in front of the posterior end of the abdomen.

The adult male is only about 4.0 mm. in body length. The carapace is yellowish with a dark brown spot on each side. The head region is clothed with yellowish hairs. The abdomen is white above and at the sides. Some specimens have a median brown stripe on the dorsal surface.

In Tasmania the natural habitat of this spider is among long grass in open sunny situations. Sometimes, however, the spider is found in low shrubs in the garden. The orb web is suspended in a vertical plane and generally near the ground. It usually has a zig-zag stabilimentum above and below the hub. This, however, may be absent. The spider reaches maturity and makes its egg-sac in May or June. The egg-sac is cup-shaped, has a flat top, and is covered with brown silk. It is attached to grass or shrubs.

ARACHNURA HIGGINSI (L. Koch, 1872)
(The Tailed Spider)
(Pl. X, fig. 2)

This interesting spider is widespread in the north, east and south of the State. Specimens have been collected at Smithton, Launceston, Forth Falls, Betsy Island, Risdon and other localities. The spider sometimes occurs in gardens in Hobart.

The adult female is about 10.0 mm. in body-length. The carapace and legs are yellowish brown with dark brown markings. The abdomen is usually cream coloured above and yellowish brown below. The carapace is very little longer than broad. The fovea is a recurved depression. Viewed from above both rows of eyes appear recurved. The tubercle on which the four median eyes stand projects over the clypeus. The lateral eyes occupy a common tubercle and are close to each other but widely distant from the median eyes. The chelicerae are stout and provided with three teeth on each side of the fang furrow. The sternum is cordate. The abdomen is elongate, deeply cleft in front and produced into a tail behind. The end of the tail is black and provided with about five small tubercles. The tail is capable of being extended or contracted and sometimes is curved over the back. The spinnerets are situated about at the end of the first third of the total length of the abdomen. The form of the epigynum is shown in text-fig. 104.

The adult male is only 2.0 mm. in body-length and a mere dwarf compared with the female. The colour is yellowish brown and there is no tail-like extension to the abdomen. The form of the palp is shown in text-fig. 105.

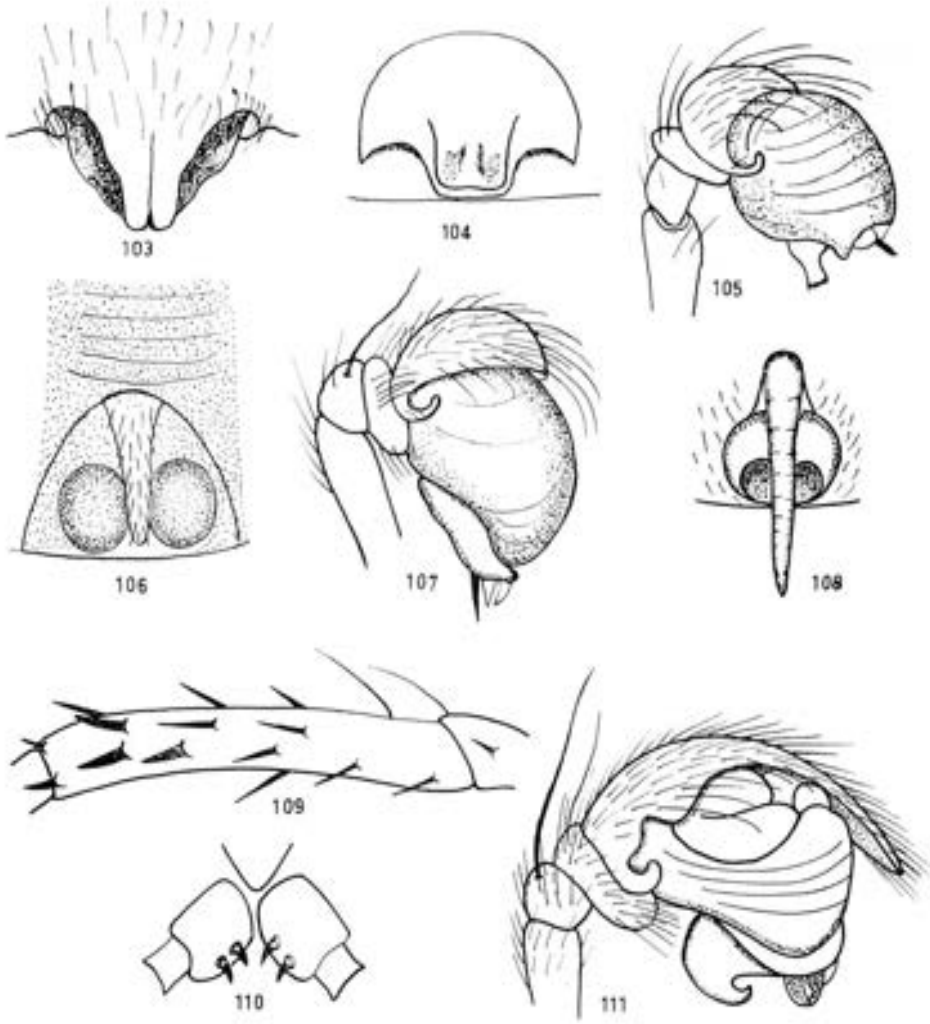
The web made by the Tailed Spider is composed of an irregular net-work of threads surrounding an incomplete orbicular snare about 10.0-15.0 cm. in diameter. Three or four sectors above the hub are left open. Below the hub there are about 20 to 30 turns of the viscid spiral. The number of radii varies from 20-29. To the radius which bisects the open sectors the spider frequently attaches dry leaves as well as its string of egg-sacs. The latter are oblong and made of strong brown threads. Each contains about 46 eggs. The lowest sac is at the hub. Here the spider hangs from the underside of the web head downwards and with her tail resting on the lowest egg-sac. The web is usually placed in a low shrub and suspended at a slight incline two or three feet from the ground.

Adults of both sexes are usually found in February. Often two or three of the diminutive males occur in the web of the one female. They generally rest on threads of the irregular net-work surrounding the orb.

CYCLOSA TRILOBATA (Urquhart, 1884)
(Pl. X, fig. 3)

This spider has much the same distribution in Tasmania as The Tailed Spider. Both species are often found in the same small area.

The adult female has a body-length of about 9.0 mm. The carapace is black, shining and with a thin yellowish margin. The legs are yellow ringed with



TEXT-FIGURES
103-111

Argiope trifasciata
Fig. 103.—Epigynum.
Arachnura higginsi
Fig. 104.—Epigynum.
Fig. 105.—Palp of male.
Cyclosa trilobata
Fig. 106.—Epigynum.
Fig. 107.—Palp of male.
Araneus bradleyi
Fig. 108.—Epigynum.
Fig. 109.—Tibia of second leg of male.
Fig. 110.—Hind coxae of male.
Fig. 111.—Palp of male.

black. The sternum is black with three pairs of yellowish tubercles. The abdomen is silvery white spotted and streaked with black at the sides. In some specimens, however, the ground colour is black with silvery markings. The carapace is about one third longer than wide. The fovea is deep and transverse. The front and hind row of eyes are both recurved. The median ocular quadrangle is wider in front than behind. The lateral eyes are on a common tubercle and almost contiguous. They are well removed from the median eyes. The chelicerae are stout and have four teeth on the promargin of the furrow and three on the retromargin. The sternum is cordate and has three pairs of marginal tubercles opposite the coxae of the first three pairs of legs. The abdomen is long

ovate in shape. Its posterior end forms three rounded lobes and extends well beyond the spinnerets. The epigynum has the form shown in text-fig. 106.

The adult male is about 5.7 mm. in body-length and usually with less silvery white markings than the female. The end of the abdomen is bent slightly upwards and the three rounded lobes are shorter than in the female. The form of the palp is shown in text-fig. 107.

The web made by this spider is a typical orb web and is usually placed on a low shrub or amongst grass. Sometimes, however, it is suspended on a wire fence. It is about 13.0 cm. in diameter and may have as many as 58 radii and 45 turns in the viscid spiral. A stabilimentum is constructed either in a vertical position above and below the hub, or in a horizontal position on each side of the hub. The latter position is the more usual. Woven into the stabilimentum are the remains of insects, on which the spider has fed, together with small particles of wood and other debris. The spider rests in the gap at the hub with her body in line with the stabilimentum. The silver and black of her colouration harmonises so closely with the light and dark particles woven into the stabilimentum, that she is camouflaged most effectively and is very difficult to see.

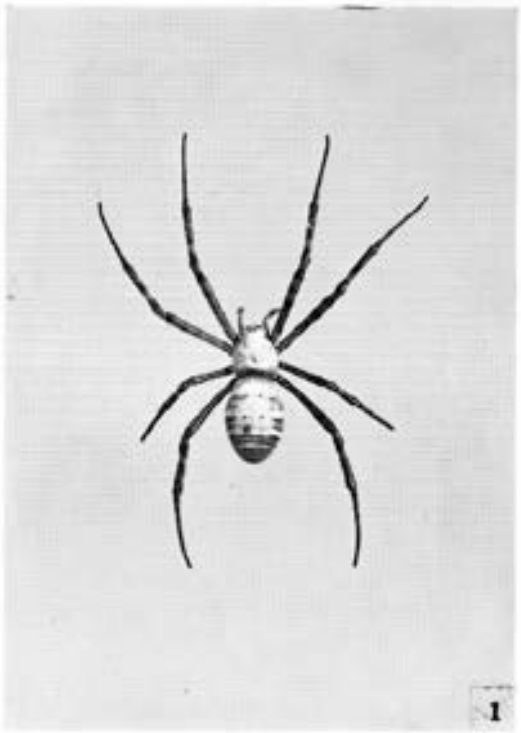
Mature males and females occur in January and egg-sacs are usually found in February. The egg-sac is plano-convex. It is generally attached to a nearby leaf or branch and covered with brown fluffy silk.

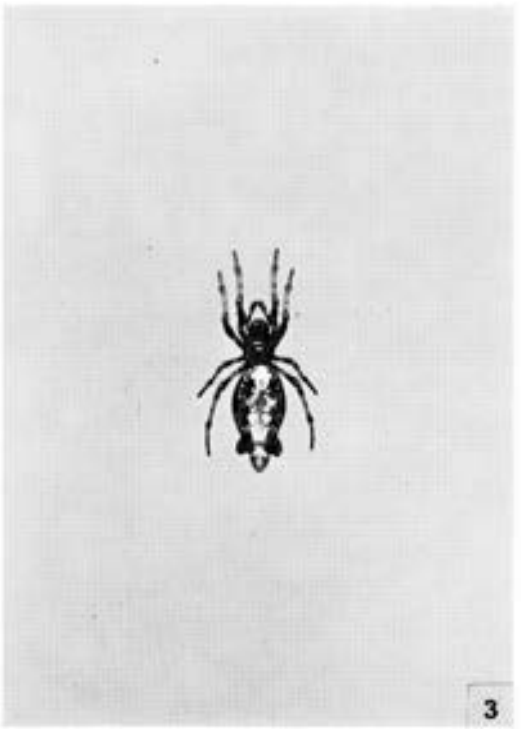
ARANEUS BRADLEYI (Keyserling, 1887)

(Pl. X, fig. 4)

This spider has been called the Enamelled-back Spider, because of the glossy dorsal surface of its abdomen. It is widespread in Tasmania and often occurs in gardens.

The adult female is about 12.8 mm. in body-length. The carapace is yellowish or reddish brown and clothed with long white hairs. The chelicerae are reddish yellow; the maxillae and labium dark brown basally, yellow towards the apex. The sternum is dark brown with a low yellowish tubercle immediately behind the labium. The legs are reddish brown ringed with black. The abdomen is yellowish streaked with black or brown at the sides. The dorsal surface is glossy and has a variable pattern of brown markings. In the middle of the ventral surface is a long quadrangular black area bounded in front and at the sides with a white stripe. In some specimens a few pale spots are present on the black area. Viewed from above both rows of eyes appear distinctly recurved. The four median eyes are about equal and arranged in a square. They are separated from one another by a distance equal to their diameter. The lateral eyes, which are smaller, are situated in the lateral angles of the head region and are well removed from the median eyes. The chelicerae are stout and have a short curved fang. There are four teeth on the promargin of the furrow and three on the retromargin. The legs are moderately long, strong and heavily armed with spines. The abdomen is almost twice as long as broad, rounded in front and decreasing in width posteriorly. The hind end, which is above and slightly beyond the spinnerets, slopes steeply downwards and forwards. Near the front of the dorsal surface are two small conical humps, one on each side. The epigynum (text-fig. 108) has a long pointed scapus.





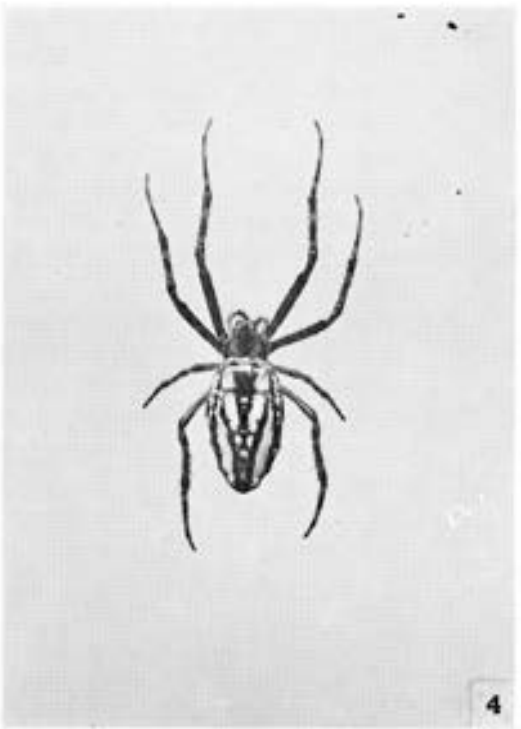


PLATE X.

Fig. 1.—*Argiope trifasciata*, female.
Fig. 2.—*Arachnura higginsi*, female with dwarf male.
Fig. 3.—*Cyrtina trilobata*, female.
Fig. 4.—*Araneus bradleyi*, female.

The adult male has a body length of about 6.5 mm. In general appearance and colouration it resembles the female. In the distal third of the prolateral side of the second tibiae are several very stout spines (text-fig. 109). Also on the retrolateral side of the fourth coxae are two short curved spines (text-fig. 110). The form of the palp is shown in text-fig. 111.

Araneus bradleyi makes an orb web that is usually suspended from low shrubs, tall grasses or from bracken. It may be vertical or slightly inclined. A stabilimentum is often constructed above and below the hub, but in some cases it is absent.

The egg-sac is more or less hemispherical. It is usually attached to a leaf or branch of a shrub but may be placed at the side of a stone on the ground. The egg-mass is covered with brown fluffy silk.

ARANEUS PUSTULOSUS (Walckenaer, 1841)
(Pl. XI, fig. 1)

Araneus pustulosus is another common orb-weaving spider, which occurs in Australia, New Zealand and the Pacific islands. It is widespread in Tasmania. The original specimen described in 1841 came from this State.

The adult female varies in body-length from 7.0-15.0 mm. The colour of the spider is also extremely variable and usually harmonizes with the surroundings. It may be grey, black, brown or yellowish brown. In the lighter coloured specimens the abdomen usually has a well marked folium on the dorsal surface. In nearly all specimens the ventral surface behind the epigastric furrow has a black quadrilateral area surrounded with a white margin. There are also four large white spots, one behind each lung-slit and one on each side of the spinnerets. The carapace is rather long and a little rounded at the sides. The head region has almost parallel sides. The four median eyes are arranged in a square and situated on a prominent elevation that projects in front. The lateral eyes are on a small tubercle at the anterior lateral angles of the head. Viewed from above both rows of eyes appear recurved. The chelicerae are stout and somewhat geniculate. There are four teeth on the promargin of the furrow and three on the retromargin. The sternum is cordate and procurved in front. There are distinct marginal elevations opposite the coxae of the first three pairs of legs. All the legs are strongly armed with spines. The abdomen is somewhat triangular. It is rounded and widest in front being narrowed posteriorly. A pair of well developed humeral tubercles are present. Five smaller tubercles at the posterior end form a T-shaped group, three of the tubercles being in a transverse line and two in a longitudinal line above the spinnerets. The epigynum (text-fig. 112) has a scapus, which is broad and rebordered in the basal half but thin in the apical half. It is clothed with short hairs.

The male is from 7.0 - 8 mm. in body-length, and resembles the female in colouration. The chelicerae are more slender. The legs are strongly armed with spines. In the case of the second pair of legs the spines on the prolateral side of the tibiae and in the apical half are short and stout, whilst those on the basal half are longer and thinner (text-fig. 113). The form of the palp is shown in text-fig. 114.

The orbicular web made by this spider measures about 30.0 cm. in diameter and is usually suspended in a vertical plane. It may be placed on shrubs, fruit-trees, fences, buildings and many other sites. One web examined had 25 radii, 27 turns in the viscid spiral and 5 turns in the notched zone. The hub was filled in with a net-work. The web is never provided with a stabilimentum. During the daytime the spider generally rests on a branch or in some retreat, but at night it occupies the centre of the web.

Mature males and females may usually be found in October.

ARANEUS HEROINE (L. Koch, 1871)
(Pl. XI, fig. 2)

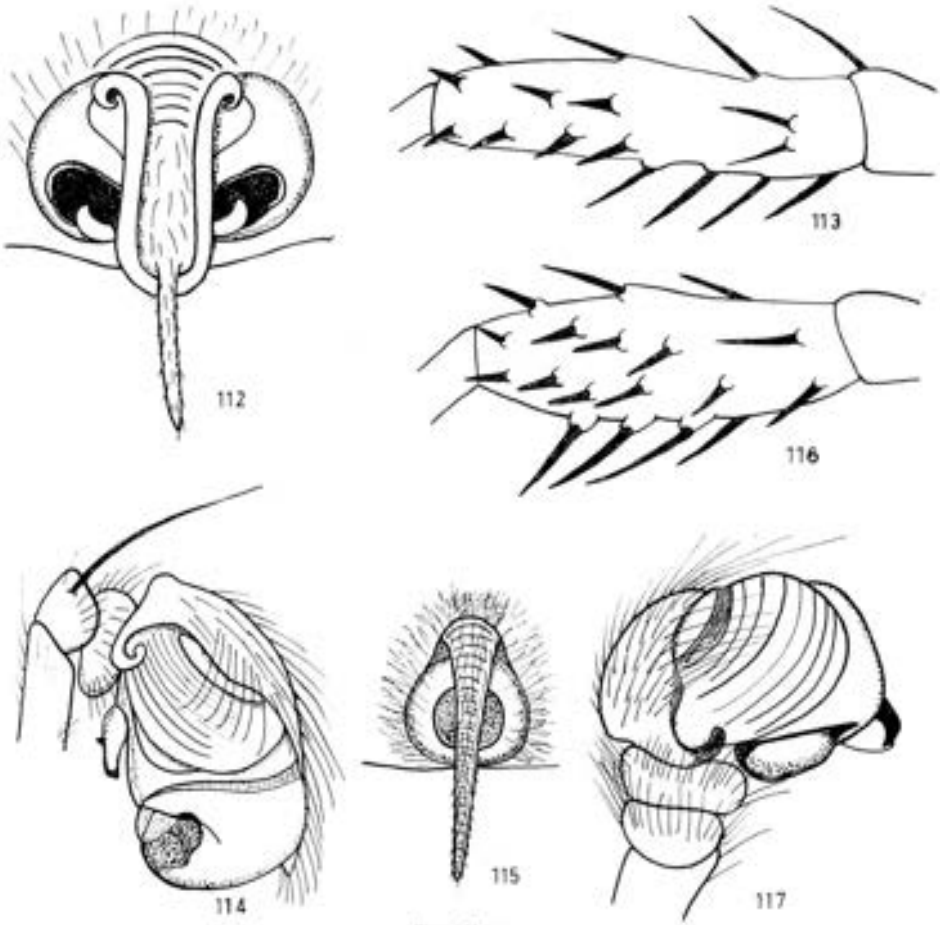
This is one of our largest orb-weaving spiders and is very common in the north, east and south of the State, especially in coastal regions.

The adult female has a body-length of about 11.0 - 18.0 mm. The carapace is yellowish with brown on each side. The anterior two thirds is clothed with long recumbent white silky hair. The chelicerae are yellowish and with white hair. The labium and maxillae are brown with yellow at the apex. The sternum is brownish yellow and clothed with recumbent white hair intermingled with erect bristles, some of which are black and others white. The legs are yellowish brown banded with darker brown. The abdomen is yellowish finely speckled with brown. The folium has white and brown markings. The surface is clothed with white hairs, white bristles and black bristles. The sides are marked with oblique black streaks. On the ventral surface behind the epigynum is a quadrilateral dark brown area surrounded by a wide pale yellow or white margin.

The carapace is rounded at the sides, narrowed in front and slightly longer than broad. The posterior slope, below the overhanging front of the abdomen, is smooth and hairless. When viewed from above both rows of eyes appear recurved. The four median eyes are about equal in size and mounted on an elevation that projects over the clypeus. The median ocular quadrangle is wider in front than behind. The lateral eyes occupy a common tubercle on the front lateral angles of the carapace. The fovea is wide and recurved. The chelicerae are stout and have four teeth on the promargin of the furrow and three on the retromargin. The legs are armed with spines and clothed with white hair, white bristles and black bristles. There are no longitudinal hairless stripes on the dorsal side of the tibiae. The abdomen is somewhat triangular, rounded in front and at the sides, and running to a point behind. There are two conical humeral tubercles and a posterior tubercle above the spinnerets. The epigynum (text-fig. 115) has a long tapering scapus, transversely wrinkled and clothed with short hairs.

The adult male is about 8.6 mm. in body-length, and has the same colouration as the female. The second tibiae are much thickened and armed with spines as shown in text-fig. 116. The form of the palp is shown in text-fig. 117.

The orbicular web made by this spider is suspended in grass or low shrubs. It has no stabilimentum. Mature males and females are usually found in or near the webs during January and February.



TEXT-FIGURES
112-117

Araneus pustulosus
Fig. 112.—Epigynum.
Fig. 113.—Tibia of second leg of male.
Fig. 114.—Palp of male.

Araneus heroica
Fig. 115.—Epigynum.
Fig. 116.—Tibia of second leg of male.
Fig. 117.—Palp of male.

CELAENIA EXCAVATA (L. Koch, 1867)
(The Bird-dung Spider)
(Pl. XI, fig. 3)

This is one of the most interesting spiders found in Tasmanian gardens. It often occurs in orchards and has therefore been called the Orchard Spider. This common name, however, is not very appropriate, since many other spiders also occur in orchards. When at rest on a leaf or branch the spider appears like the excrement of a bird and therefore is also known as the Bird-dung Spider. The resemblance is so close that the human eye is often deceived. A Tasmanian housewife was much perturbed to find her snow-white washing soiled by what she thought were the droppings of a bird. Her concern turned to amazement, when the "droppings" got up and ran away. The domestic clothes line is not the normal habitat of the spider, but occasionally *Celaenia excavata* wanders away from shrubs in the garden and is found in unusual situations. A specimen,

brought to the notice of the writer, had established itself with its egg-sacs on the shade of an electric light over the porch of a house. As the spider feeds on night-flying moths, the position was an ideal one, and no doubt many moths attracted by the light fell victims to the spider. To some observers the dome-shaped gravid abdomen of the spider bears a resemblance to a miniature human skull, and so the spider is sometimes called the Death's Head Spider. The fact that the species has received three common names is evidence of the general interest, which *Celaenia excavata* evokes.

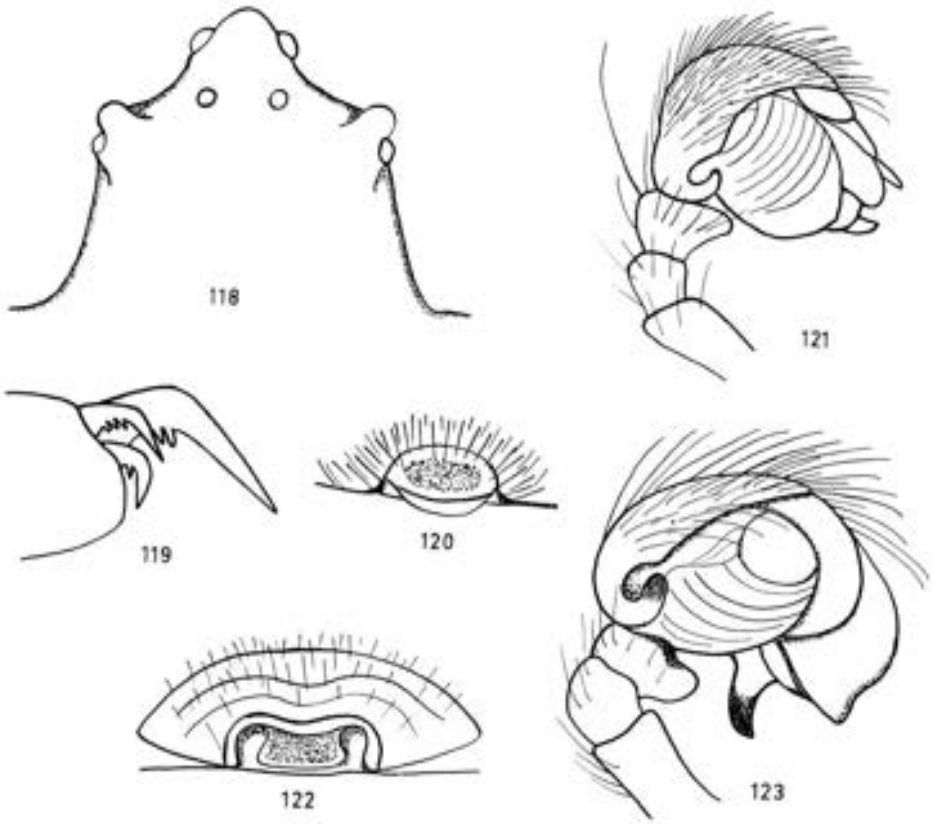
The adult female is about 13.0 mm. in body-length. The carapace is dark brown and bears a number of small rough tubercles. The head region (text-fig. 118) is narrow and bluntly pointed in front. Viewed from above both rows of eyes appear strongly recurved. The four median eyes form a square. The posterior pair are slightly smaller than the anterior pair. The lateral eyes are mounted on a projecting tubercle. The anterior lateral eyes are on the under-side of the tubercle and look downwards. They cannot be seen from above. The chelicerae are small and inclined slightly backward. They are clothed with black hairs and bristles. The fang is strong, short and well curved. The furrow has very small teeth, two on the promargin and three on the retromargin. The sternum is cordate, convex with slight elevations opposite the coxae, and clothed with long yellowish hairs. The first two pairs of legs are noticeably longer than the others. On the ventral side of the femora of the first three pairs of legs are two longitudinal rows of small dentiform tubercles, each armed with a short spine or bristle. When the spider is at rest and the legs drawn up close to the body, the patella and tibia fit into the space beween the two rows of tubercles. A number of smaller spines occur between and also outside the two rows. The upper tarsal claws (text-fig. 119) of the first and second legs are dissimilar. The retroclaw is very large and the proclaw small like the lower claw. The abdomen is dull and has a tough leather-like skin. It rises steeply in front and is deeply excavated with a quadrilateral depression. The colour is brownish yellow or dull white with brown or black markings. A small square black spot is present in the middle of the front margin. The form of the epigynum is shown in text-fig. 120.

The adult male is only 2.0-3.0 mm. in body-length and not often seen. Its general appearance and colouration are as in the female. The form of the palp is shown in text-fig. 121.

The spider does not weave a web for the capture of prey but usually spins some coarse threads to support its egg-sacs. During the daytime the spider generally rests motionless on a leaf or its bundle of egg-sacs. Its legs are drawn up close to the body and it appears quite inert. Often it does not move even when touched. At night, however, the spider hangs by a thread with its front legs extended, waiting to catch any moths that flutter near it.

The egg-sacs, which are suspended in a close group, are almost spherical and up to 15.0 mm. in diameter. They are made of tough brown silk and marked with dark lines. One female may make as many as thirteen egg-sacs in the period July to December. More than 200 eggs may be present in one sac. In summer

the young emerge in about eight weeks. Mature males and females usually occur in March.



TEXT-FIGURES
118-123

Colaenia excavata
Fig. 118.—Head region from above.
Fig. 119.—Tarsal claws of front legs.
Fig. 120.—Epigynum.
Fig. 121.—Palp of male.
Gasteracantha minax
Fig. 122.—Epigynum
Fig. 123.—Palp of male.

GASTERACANTHA MINAX Thorell, 1859
(Pl. XI, fig. 4)

This spiny spider occurs in the north of the State and mainly in coastal areas. It is very common at Low Head, Bridport, Beaconsfield, and on the islands in Bass Strait. It does not seem to occur in the south of Tasmania.

The adult female is about 6.0 - 9.0 mm. in body-length. The carapace is black and clothed with grey hairs. The chelicerae, palps, maxillae and labium are mainly black, but the apex of the labium and the inner angle of the maxillae are yellowish. The sternum is black with an orange-yellow spot in the middle. The legs are mainly dark brown with some yellow on the patellae, tibiae and metatarsi. The colouration of the abdomen is variable. In some specimens it is mainly black. In others it is black with yellow spots or a more extensive yellow pattern. The carapace, femora and abdomen often have a bluish sheen.

The carapace rises steeply from its posterior margin. The surface of the head region is clothed with short hairs. The four median eyes are mounted on a slight elevation and the ocular quadrangle is wider behind than in front. The lateral eyes are on the projecting anterior lateral angles of the carapace. The chelicerae are short, stout and inclined slightly backward. There are seven teeth on the promargin of the furrow and four on the retromargin. The sternum is strongly convex, almost hemispherical. The abdomen is wider than long, somewhat flat above, and with the front and hind margins curved. It is produced into two conical spines on each side and two behind. The posterior spines are the largest and the anterior lateral ones the smallest. The skin is tough and leather-like. The dorsal surface is marked with a number of rounded sigilla. Of these the most conspicious are a row of ten close behind the front margin, four large ones forming a quadrilateral in the middle, a single one at the base of each posterior lateral spine, a row of seven in front of the posterior spines and three between their bases. The ventral surface in non-gravid specimens has four or five semi-circular concentric folds. The spinnerets are surrounded by a ring. The form of the epigynum is shown in text-fig. 122.

The adult male is about 4.0 mm. in body length and resembles the female in colouration and appearance. The palp has the form shown in text-fig. 123.

The orb web made by this spider is built between branches of shrubs and trees. It may be four feet or more from the ground. The spider does not have a retreat but rests at the hub of the web. A peculiar feature of the web is the presence of little tufts of silk attached to the radii.

Mature males and females occur in January and February.

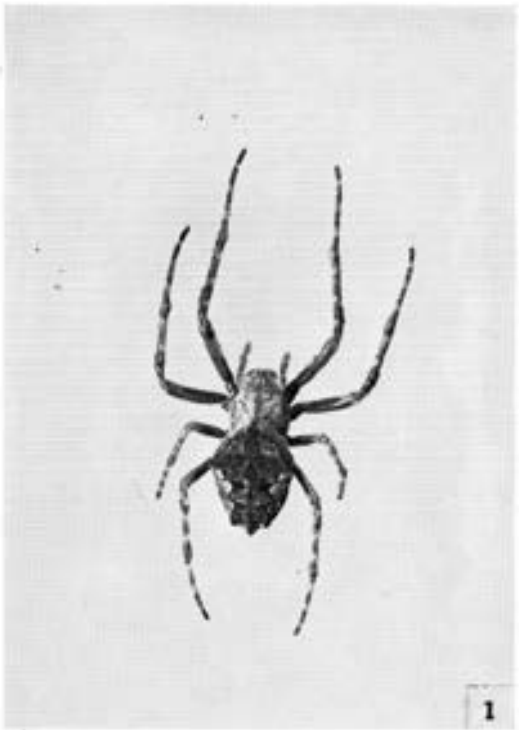
Family **AGELENIDAE**

The spiders of this family have eight eyes which are homogeneous in some species, heterogeneous in others. The chelicerae are generally large and powerful. They are provided with a boss and scopula. The fang furrow is oblique and furnished with teeth on both margins. The thoracic fovea is longitudinal. The labium is free and the maxillae parallel. The legs are usually armed with spines but lack a scopula. Trichobothria are numerous. They are in two rows on the tibiae, and in a single row on metatarsi and tarsi. Those on the tarsi increase in length distally. Typical species have plumose hair as well as ordinary hair. There are six spinnerets, the front pair usually shorter than the hind pair. A colulus may be present or absent. There are three tarsal claws, the upper pair toothed. A cribellum and calamistrum are lacking.

Most spiders belonging to this family are sedentary and spin sheet webs. Some species, however, do not make webs but hunt for their prey. Those which spin sheet webs run on the upper surface of the web.

RUBRIUS MILVINUS Simon, 1903
(Pl. XII, fig. 1)

This spider is frequently found in rain-forest areas. It occurs throughout Tasmania where the environment is suitable and may be found at sea-level as well as at high elevations on the mountains.



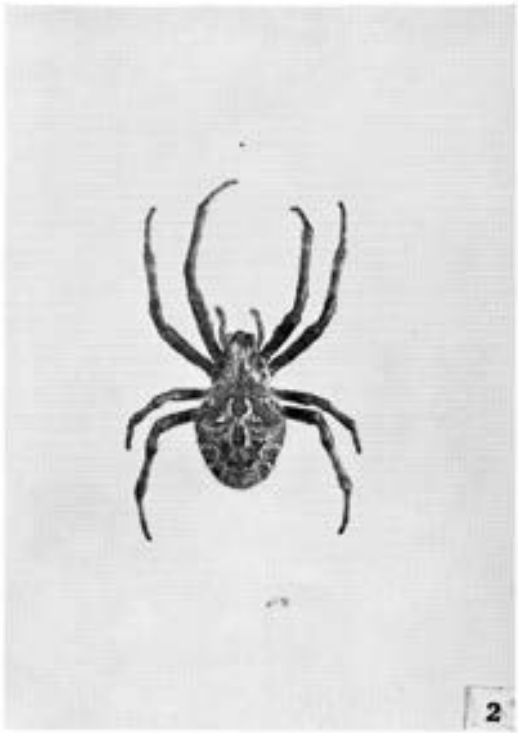


PLATE XI.

Fig. 1.—*Araneus pustulosus*, female.
Fig. 2.—*Araneus heroine*, female.
Fig. 3.—*Celaenia excavata*, female with egg-sacs.
Fig. 4.—*Gasteracantha minax*, female.

The adult female has a body-length of about 10.0 mm. The carapace is ovate, convex, smooth and slightly pubescent. It is reddish brown with the front of the head region slightly darker. The eight eyes are in two rows, the front row being strongly procurved and the hind row slightly procurved. The median eyes are smaller than the laterals and the ocular quadrangle is wider behind than in front. The thoracic fovea is a short longitudinal groove. The chelicerae are reddish, shining, smooth and strongly geniculate. The lateral boss is large. The furrow is oblique and armed with two teeth near the base of the promargin and two near the middle of the retromargin (text-fig. 124). The promargin has a well developed scopula. The maxillae are parallel. The labium is longer than wide and slightly excavated in front. The sternum is shield-shape with the front margin slightly curved round the base of the labium. The legs are reddish yellow, the metatarsi and tarsi being somewhat darker. All tibiae and metatarsi are armed with spines. There is a double row of trichobothria on the tibiae and a single row on the metatarsi and tarsi. The upper tarsal claws have ten teeth, the lower claw three. The abdomen is oblong, dark brown above and somewhat mottled with paler spots. The ventral surface is yellowish brown. The epigynum (text-fig. 125) is very large, more or less semicircular in outline, and with a large swollen protuberance on each side. The anterior spinnerets are wide and conical. A short colulus furnished with a few bristles is present.

The adult male resembles the female in size and general appearance. The palp (text-fig. 126) has a large rounded bulb which is yellow and polished. The tibia has two apical apophyses, one dorsal and one ventral. The retrolateral surface of the segment is deeply excavated. The tarsus is strongly narrowed at the base and provided with a curved hook-like proximal apophysis on the retrolateral side.

This spider does not spin a web. It lives in rotten logs and under loose stones in shady moist areas. When about to make her egg-sac, the female selects a small cavity in a rotten log or in the soil under a log or stone. She then lines the cavity with silk completely enclosing herself. Within this cocoon-like nest the spider makes a white, more or less spherical egg-sac and remains with it until the young emerge. Any attempt to break open the nest and remove the egg-sac is resisted energetically by the spider.

Mature females seem to occur throughout the year, mature males from December to April.

TEGENARIA DOMESTICA (Clerck, 1757)
(Pl. XII, fig. 2)

This common house spider has a world-wide distribution and has probably been introduced into Tasmania by shipping. It occurs mainly in buildings and is not found in the bush.

The adult female is about 10.0 mm. in body-length. The carapace is usually light brown with a longitudinal dark brown band on each side. The sternum is pale in the middle, dark on each side with three pairs of lateral spots. The abdomen is light brown above, somewhat darker anteriorly. The posterior half of the dorsal surface has about five dark chevrons, which in some specimens

are broken on each side giving rise to three longitudinal rows of irregular dark patches, one row median and a row on each side. The whole abdomen is clothed with long hairs. When viewed from above the front row of eyes appears recurved and the hind row procurved. The anterior median eyes are the smallest of the group. The median ocular quadrangle is wider behind than in front. All the eyes are mounted on black rings. The front median eyes are separated by less than half their diameter and the laterals are almost contiguous. The thoracic fovea is longitudinal. The chelicerae are geniculate and furnished with well developed bosses. There are three teeth on the promargin of the furrow and four on the retromargin. The maxillae are parallel. The labium is slightly longer than broad and is excavated on each side at the base. The legs are long and slender, clothed with long hairs and armed with sharp spines. Trichobothria are in two rows on the tibiae and in a single row on the metatarsi and tarsi. The epigynum has the form shown in text-fig. 127.

The adult male has a body-length of about 9.0 mm. and resembles the female in general appearance but has longer legs. The palp (text-fig. 128) has a dorsal and a retrolateral apophysis on the tibia in the distal third.

As mentioned previously this spider lives almost exclusively in buildings, especially in the cellars of houses. The web is generally in the form of a horizontal sheet leading into a corner or crevice, where the spider rests. The egg-sacs are white, lenticular and attached either to the web or to the adjacent wall.

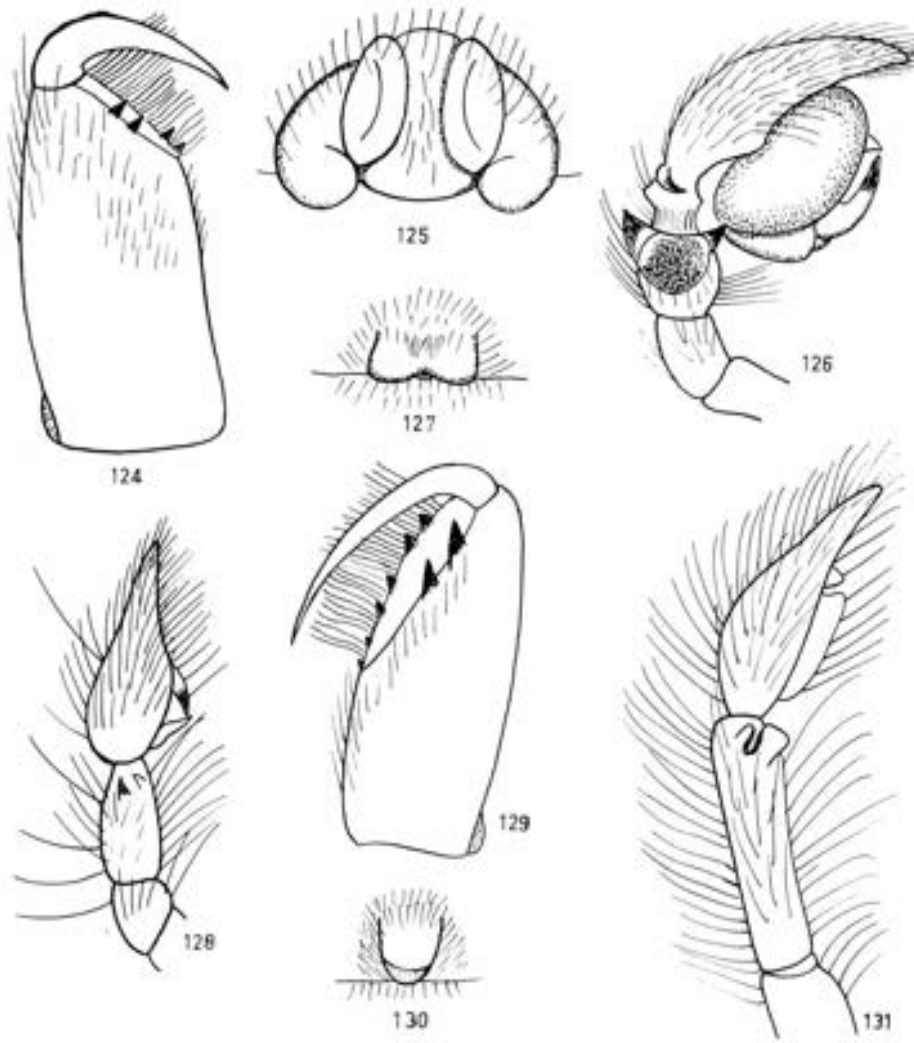
DESIS KENYONAE Pocock, 1902
(Pl. XII, fig. 3)

Field naturalists interested in the small animals living under stones and amongst sea-weed on the Tasmanian coast often meet with the spider, *Desis kenyonae*. It seems strangely out of place in a marine habitat, but it has solved the problem of living in the littoral zone, where it is completely submerged at high tide. If it remains near the low-tide mark, as it often does, it is under water for most of the day. The spider seems to favour the sea coast and has been taken at St. Helens, Eaglehawk Neck, and Adventure Bay. Sometimes, however, it occurs in estuaries and has been found at Gravelly Beach on the Tamar.

The adult female has a body-length of about 11.0 mm. The general colour is yellowish brown, the abdomen being greyish brown without any pattern. The eight eyes are arranged in two rows. When viewed from above both rows appear almost straight. The anterior lateral eyes are the largest. The median ocular quadrangle is wider behind than in front. The thoracic fovea is longitudinal. The chelicerae (text-fig. 129) are powerful and project forward. They are nearly as long as the carapace. The fang is dark reddish brown, long and slightly curved. The promargin of the furrow has six teeth and the retromargin two. The labium is somewhat rectangular, longer than wide and emarginate in front. The maxillae are parallel and pointed at the apex. The sternum is long shield-shape, almost flat and clothed with long hairs. The first pair of legs are the longest and without spines. Their upper tarsal claws are furnished with twelve teeth, the lower claw is without teeth. The other legs have a few

spines on the tibia and, in the case of the last two pairs, on the metatarsi also. The trochanter of the palp is very long and more than half the length of the femur. All the legs and the palpi are densely clothed with very long hair. The abdomen is ovoid and has a thick coat of long erect curved hairs interspersed with shorter recumbent hairs. The epigynum (text-fig. 130) is very small.

The adult male is about 9.0 mm. in body-length and resembles the female. The palp (text-fig. 131) has a short cleft apophysis at the apex on the retrolateral side of the tibia.



TEXT-FIGURES
124-131

Rubrius solivinus

Fig. 124.—Chelicera of female.
Fig. 125.—Epigynum.
Fig. 126.—Palp of male.

Tegenaria domestica

Fig. 127.—Epigynum.
Fig. 128.—Palp of male.

Desis kenyonae

Fig. 129.—Chelicera of female.
Fig. 130.—Epigynum.
Fig. 131.—Palp of male.

This spider does not spin a web but when the tide is out hunts for its prey amongst the littoral fauna. As the tide comes in the spider retreats into an empty shell or a hole in a rock and closes the entrance with a sheet of silk. In this way the water is excluded and enough air is retained in the cavity to meet the respiratory needs of the spider until the tide goes out again. The egg-sac, which contains about thirty eggs, is lenticular, about 17.0 mm. in diameter and made of white silk. The outermost layer is tough and parchment-like. The egg sac is attached to the side of the cavity occupied by the spider. *Desis kenyonae* never makes its nest above high water mark.

NICODAMUS BICOLOR (L. Koch, 1872)
(Pl. XII, fig. 4)

The family to which this spider belongs is by no means certain. It has been placed in the Theridiidae, Agelenidae and Zodariidae by different authorities. The New Zealand arachnologist, A. T. Urquhart (1893), who described a number of Tasmanian spiders, gave it the name of *Linyphia melanozantha*. The problem of its taxonomic position remains to be solved. For the present it is placed in the Agelenidae, to which it was assigned by the French authority, E. Simon.

Nicodamus bicolor is one of the most common spiders found in the Tasmanian bush. It is widespread and always attracts attention by its bright contrasting colours.

The adult female has a body-length of about 10.0 mm. The carapace is bright orange yellow, the head region suffused with light brown. The chelicerae, maxillae and labium are yellowish brown, the sternum dark brown. The legs are orange yellow with more or less of the basal portion of the femora and the tibiae brownish and the ends of the tarsi dark brown. The abdomen is bluish black with the epigynum brown, the lung covers brownish yellow and the spinnerets yellow.

The carapace is almost glabrous being very sparsely furnished with black hairs. The front row of eyes is recurved and the hind row almost straight. The median ocular quadrangle is wider behind than in front. The lateral eyes are on a common tubercle and almost contiguous. The front median eyes are dark, the others have a pearly lustre. The chelicerae (text-fig. 132) short, geniculate and with a strong lateral boss. The fang is short and curved. The furrow almost transverse with a single tooth on the promargin, none on the retromargin. A scopula is absent. The maxillae are longer than wide and convergent. The labium is wide and oval. It is fused to the sternum and immobile. The sternum is broadly cordate, flat and without excavations on the lateral margins. It is clothed with long bristles. The first pair of legs are little more than three times the length of the carapace. All the legs are clothed with stiff hairs. The metatarsi are armed below with a pair of apical spines. There are no true spines on the other segments, but the tibiae have a number of coarse bristles. A double row of trichobothria is present on the tibiae, and a single trichobothrium on the distal half of the metatarsi of the first three pairs of legs, but none on the metatarsi of the fourth pair or on any of the tarsi. No comb is present on the under side of the

fourth tarsi. However, there are some barbed setae, which are distributed irregularly and not in a single row. The upper tarsal claws have eighteen teeth, the lower claw two. The abdomen is broadly ovoid, clothed above with stiff erect bristles, which are directed posteriorly. The lower surface has fine erect hairs. The epigynum (text-fig. 133) is an oval convex plate clothed with a few hairs. The spinnerets are short and conical, the front pair being the largest. A short colulus furnished with about eight setae is present.

The adult male is about 5.0 mm. in body-length and resembles the female in colouration. The palp (text-fig. 134) has a very large curved dorsal apophysis on the tibia. The apophysis is laterally compressed, blunt at the apex and furnished with a short projection on the prolateral side. The tarsus has a shallow cup-like depression on the dorsal side near the base.

Nicodamus bicolor occurs under loose stones, logs and fallen bark in moderately moist localities. Sometimes it is found in pieces of rolled bark and under the loose bark of eucalypts. The spider does not spin a large web but makes a small irregular network composed of a few threads and not extending very far beyond the spread of its own legs. It hangs from the underside of the network. When disturbed the spider has the peculiar habit of moving its palps up and down in succession.

Adult males and females occur mainly in the autumn, but some females are found in the early spring. Egg-sacs are made during November and December. They are white, plano-convex and covered with a layer of woolly silk to which insect remains and other debris are usually attached. The egg-sacs contain from 20-40 eggs. It is not unusual for the females to become gregarious during the egg-laying period. Sometimes as many as eight may congregate together and make their egg-sacs in such close proximity to one another that they partly overlap. The egg-sacs are generally placed on the underside of loose stones or of fallen bark.

Family **OXYOPIDAE**

The spiders of this family have eight dark homogeneous eyes arranged in a hexagon. The front row is recurved and the hind row procurved. The curvature is so great that the eyes appear to be in four rows. The front medians are the smallest and the front laterals the largest of the group. The clypeus is very high. The chelicerae have a boss and scopula. The margins of the furrow are either without teeth or with only one tooth. The maxillae are parallel, the labium long and free. The legs are armed with numerous outstanding spines. There are three tarsal claws all furnished with teeth. No tarsal scopulae or claw tufts are present. Trichobothria are in two irregular rows on tibiae, metatarsi and tarsi. The body is clothed with scale-like hairs and simple hairs. There are six spinnerets. A cribellum, calamistrum and colulus are lacking.

The family is known as the Lynx-eyed Spiders and has only one common representative in Tasmania.

PLATE XII.

Fig. 1.—*Rubrius milreisus*, female.
Fig. 2.—*Tegenaria domestica*, male.
Fig. 3.—*Dicis kengonae*, female.
Fig. 4.—*Nicodamus bivolor*, females with egg-sacs.

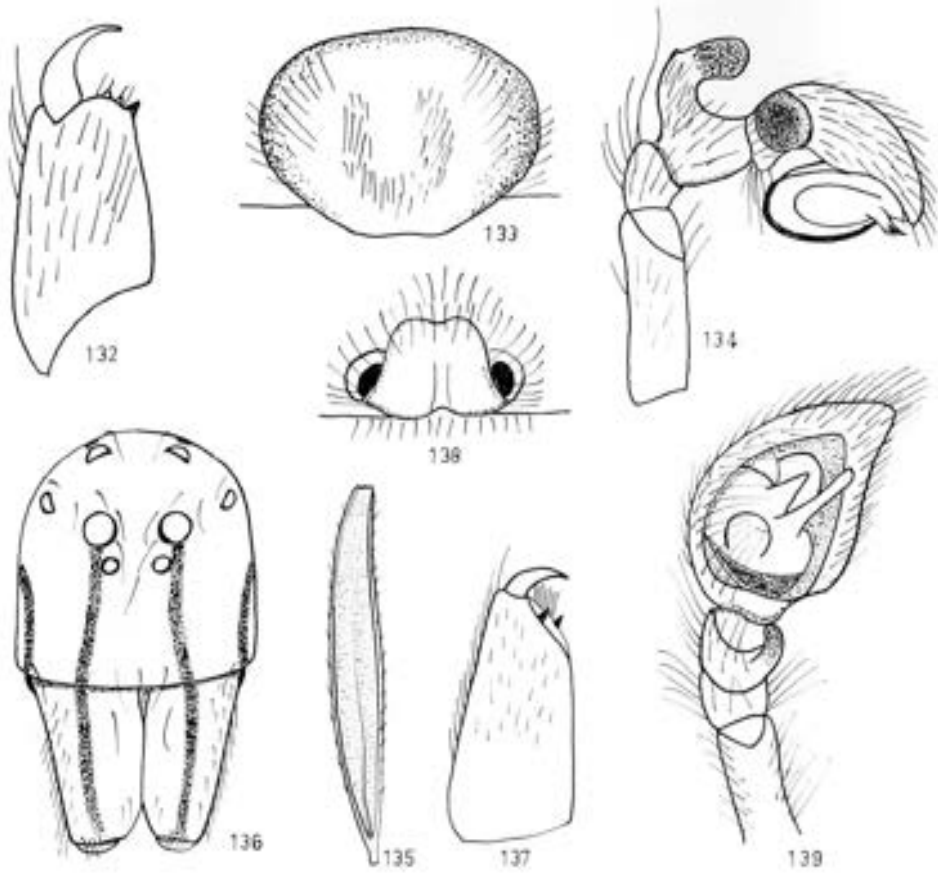
OXYOPES MUNDULUS L. Koch, 1878
(Pl. XIII, fig. 1)

This spider is usually found amongst tall grass in open sunny situations, but it also occurs amongst bracken and on shrubs in the garden and elsewhere. It is well distributed in both the north and south of Tasmania.

The adult female is about 7.0 mm. in body-length. The carapace is brownish yellow marked with four longitudinal dark bands. The two middle bands converge and unite posteriorly. The two outer bands divide at the side of the head region forming two narrow branches, an upper one leading to the posterior lateral eyes and a lower one curving downwards to the anterior lateral angle of the carapace. From the two large anterior lateral eyes two diverging black bands extend downwards to the distal end of the chelicerae. The light areas of the head are clothed with white scales and the dark areas with black scales (text-fig. 135). The scales are leaf-like, 0.17 mm. long and 0.02 mm. wide. The labium is brown, the maxillae yellow. The sternum is yellow in the middle and brown laterally. The dorsal surface of the abdomen has a broad median band clothed with yellow scales. On each side of the band is a narrow stripe clothed with white scales. Outside the narrow stripe is a broad black band with a narrow white band on its anterior half. The legs are brownish yellow. Below the femora of all the legs and above the tibiae of the two anterior pairs are two longitudinal black stripes.

The carapace is weakly rounded at the sides and very little narrowed in front. It is high and slopes steeply downwards behind and at the sides. It is clothed with scales. The clypeus is high and vertical. The front row of eyes is so strongly recurved that the large lateral eyes are almost behind the small median eyes (text-fig. 136). The hind row is wider than the front row and strongly procurved. The whole group of eyes forms a hexagon. The chelicerae (text-fig. 137) are small, inclined slightly backward and provided with strong lateral bosses. The fang is short and the furrow furnished with a single tooth on each margin. A weak promarginal scopula is present. The maxillae are long and narrow. The labium is more than half the length of the maxillae. The sternum is cordate, flat and clothed with recumbent white scales intermingled with long erect hairs. The first, second and fourth pairs of legs are about equal in length. The femora, patellae, tibiae and metatarsi of all the legs are armed with long slender projecting spines. There are about twelve trichobothria on the tibiae, four on the metatarsi and tarsi. The upper tarsal claws have seventeen teeth, the lower claw two. The abdomen is somewhat long, rounded in front, widest in the middle and narrowed posteriorly. The surface is clothed with scales and simple hairs. The form of the epigynum is shown in text-fig. 138.

The adult male is 4.0 mm. in body-length and somewhat darker in colouration than the female. The abdomen is dark brown with two longitudinal white stripes on the dorsal surface. The palp (text-fig. 139) has a blunt curved apophysis below the tibia.



TEXT-FIGURES 132-139

Nicodamus bicolor
Fig. 132.—Chelicera of female.
Fig. 133.—Epigynum.
Fig. 134.—Palp of male.

Oxyopes mundulus
Fig. 135.—Scale from head region.
Fig. 136.—Front view of eyes and chelicerae of female.
Fig. 137.—Chelicera of female.
Fig. 138.—Epigynum.
Fig. 139.—Palp of male.

This spider does not spin a web but hunts for its prey. During spring it may often be seen resting or moving about on the leaves of garden shrubs. The egg-sac is made at the end of October or early in November. It is biconvex, 9.0 mm. long and 6.0 mm. wide. The wall is composed of three layers of white silk, a loose outer layer of threads, then a dense paper-like layer and finally a soft flocculent layer surrounding the eggs. The number of eggs in a sac varies from thirty to seventy. The female usually attaches the egg-sac to the seed-head of a grass, especially the grass *Anthistiria ciliata* Linn. She guards the sac until the young are ready to emerge and then assists their escape by tearing it open.

Family **LYCOSIDAE**

The Lycosidae or Wolf Spiders have a very characteristic arrangement of the eight eyes, which are always in three rows. The first row has four small eyes, the second two large eyes (the posterior medians), and the third also two large eyes (the posterior laterals). The four large eyes may be regarded as

being in a strongly recurved row. The chelicerae are strong and furnished with well developed bosses. Both margins of the furrow have teeth, there usually being three on the retromargin. A dense promarginal scopula is present. The fourth pair of legs are the longest. All the legs are armed with spines and provided with numerous trichobothria on the tibiae, metatarsi and tarsi. The distal margin of the trochanter has a notch on the ventral side. A tarsal scopula is present and three claws. The upper claws are toothed, the lower claw may be without teeth or have a single tooth. The labium is free and the maxillae more or less parallel. There are six spinnerets. A cribellum, calamistrum and colulus are lacking. The male palp never has an apophysis on the tibia.

Wolf Spiders hunt their prey and with very few exceptions do not construct a snare. Most of them live amongst herbage, under loose stones or in burrows in the soil. Some of those which make burrows close the entrance with a door in much the same way as do Trap-door Spiders. However, the hinge, if any, is never strongly constructed.

The egg-sac is spherical, made of two valves, and carried by the female attached to the spinnerets. When the young emerge they climb onto the mother's body and are carried about by her for some days before they disperse.

LYCOSA TASMANICA Hogg, 1905
(Pl. XIII, fig. 2)

This species is one of our largest Wolf Spiders and is very common in most parts of Tasmania. It is frequently found on the Queen's Domain, Mount Nelson, at Lindisfarne and many other places near Hobart and elsewhere. It sometimes occurs in gardens and, because it makes a burrow in the ground, is mistaken for a Trap-door or Funnel-web Spider.

The adult female has a body-length of about 26.0 mm. The carapace is dark brown with a faint median band and white margin. The radial stripes are white and edged with black behind. The chelicerae are black with yellow hairs. The maxillae, labium, sternum and coxae are black. The legs and palps are dark brown with the femora grey below and at the sides. The dorsal surface of the abdomen is dark brown and has on the front half a black median bell-shaped mark edged with fawn. Behind this mark are five dark chevrons each with a fawn posterior margin. The sides of the abdomen are light brown speckled with dark brown. The ventral surface is velvet black without any pattern.

The front row of eyes is straight and shorter than the second row. The trapezium formed by the four large posterior eyes is wider behind than it is long. The chelicerae are strong. The fang furrow has three teeth on the promargin, the middle tooth being the largest. The retromargin has three large teeth about equal in size. The labium is slightly longer than wide. The sternum is oval and clothed with coarse black hair. The palpi and legs are armed with spines. All the tarsi and the first and second metatarsi are densely scopulate; the third and fourth metatarsi thinly scopulate. The fourth legs are the longest and measure about 36.0 mm. The abdomen is ovoid, clothed with thick fine recumbent hair intermingled with coarse erect bristles. The form of the epigynum is shown in text-fig. 140.

The adult male is about 15.0 mm. in body-length and resembles the female in colouration. The form of the palp is shown in text-fig. 141.

Lycosa tasmanica lives in a burrow, which is usually made at the side of a stone and may be 30.0 cm. deep. It has a silk lining round the entrance and is often provided with a rim or collar composed of grass stalks and leaves woven together. When the spider is moulting or making its egg-case, the burrow is closed with a sheet of silk spun across the entrance. The egg-case is about 13.0 mm. in diameter and may contain 400 eggs. It is usually made during January, and the young emerge in April. Adult males are found in December.

LYCOSA SIMSONI Simon, 1898
(Pl. XIII, fig. 3)

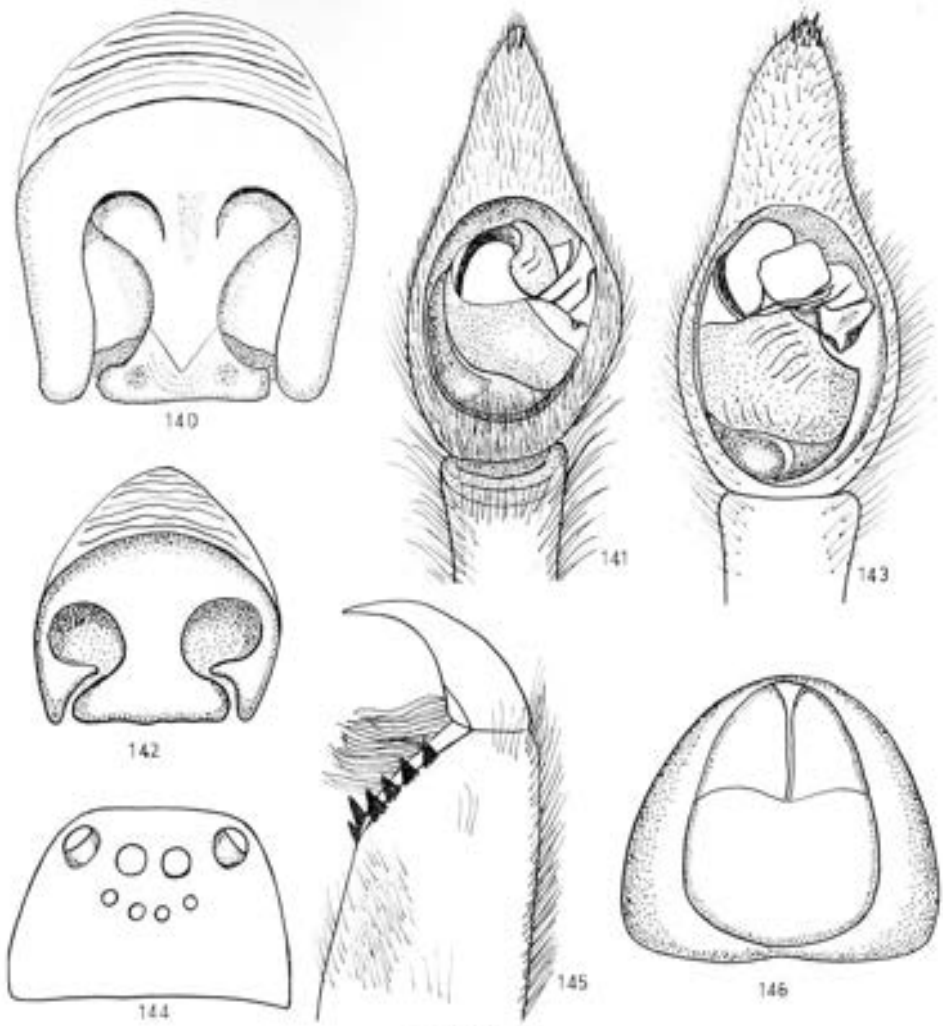
This Wolf Spider makes a burrow in the ground and closes the entrance with a door. It is a common species in many parts of the State and like the preceding species sometimes occurs in gardens.

The adult female is about 22.0 mm. in body-length. The carapace is fawn with a lighter median band. The margin is clothed with white hairs. The radial marks and fovea are brown. The surface is densely clothed with recumbent yellowish and dark hairs. The chelicerae are dark brown, almost black, and clothed in front with white hairs and black bristles. The maxillae, labium, sternum and coxae are brownish yellow. The legs are fawn becoming darker on the underside. The dorsal surface of the abdomen is clothed with recumbent fawn hairs and erect black bristles. On the anterior half two diverging longitudinal dark lines enclose a median brownish patch, which has a white area in front and on each side. On the posterior half there are three or four faint brownish chevrons. The sides of the abdomen are brown, the under surface yellow without any pattern.

The first row of eyes is slightly procurved and shorter than the second. The trapezium formed by the four large posterior eyes is wider behind than it is long. The chelicerae have three teeth on both the promargin and the retromargin of the furrow. The maxillae are almost parallel and have a dark scopula. The labium is longer than wide, truncate in front and fringed with stiff bristles. The sternum is oval, convex, and clothed with long fawn hairs and black bristles. The abdomen is ovoid. The epigynum (text-fig. 142) is chestnut brown. It has two deep oval depressions one on each side of the median guide. In front it is rugose and marked with transverse striations.

The adult male is about 18.0 mm. in body-length and resembles the female in general appearance. The form of the palp is shown in text-fig. 143.

The burrow made by this spider is about 14.0 cm. deep. The door closing the entrance is not hinged. When the spider leaves the burrow the door is turned over and moved to one side. It is pulled back into position again when the spider re-enters. When the spider captures an insect, it usually drags its prey into the burrow and then comes to the entrance and closes the door. The egg-sac is generally made in early summer. Adult males are found from January to April.



TEXT-FIGURES
140-146

Lycosa tasmanica
Fig. 140.—Epigynum.
Fig. 141.—Palp of male.
Lycosa simsoni
Fig. 142.—Epigynum.
Fig. 143.—Palp of male.
Dolomedes australianus
Fig. 144.—Eyes viewed from front.
Fig. 145.—Chelicera of female.
Fig. 146.—Epigynum.

Family PISAURIDAE

In spiders of this family there are eight dark homogeneous eyes arranged in two strongly recurved rows, so that they sometimes appear to be in three or four distinct rows. The chelicerae have strong lateral bosses. Both margins of the furrow are toothed and there is a well developed scopula on the promargin. The labium is free and the maxillae slightly converging. The legs are long, usually scopulate, and provided with numerous trichobothria on the tibiae, metatarsi and tarsi. The trochanters are notched. Three tarsal claws are present; the upper pair toothed; the lower claw with or without teeth. The hairs of the body and legs are often plumose. A cribellum and calamistrum are lacking. Six spinnerets and a colulus are present.

Most members of this family occur in the vicinity of creeks and lakes. They are semiaquatic and able to run over the surface of the water. When disturbed some species dive and stay submerged for a considerable time.

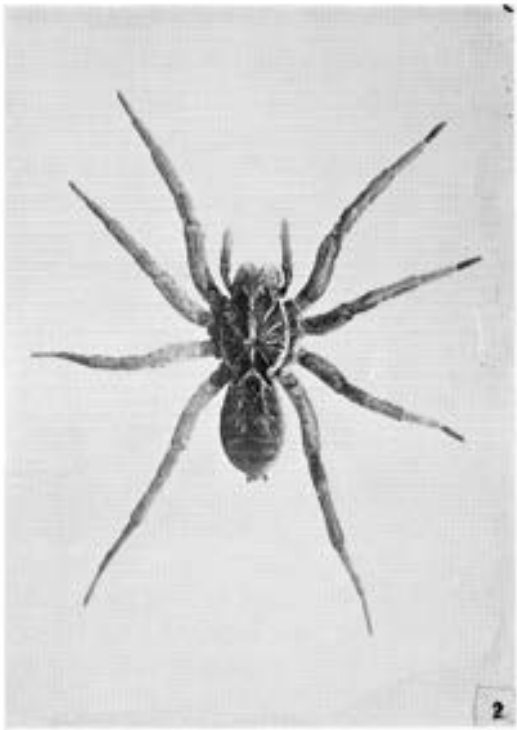
DOLOMEDES AUSTRALIANUS L. Koch, 1865
(Pl. XIII, fig. 4)

This large spider has been found close to creeks near Hobart, Launceston, Tunbridge, Sandfly and Huon. It is also widely distributed on the Australian mainland.

The adult female varies in body-length from about 20.0 mm. to 27.0 mm. In the largest specimens the first and second legs are about 73.0 mm. long and the fourth legs slightly longer. The carapace is brownish yellow. The chelicerae dark brown with a reddish yellow scopula. The maxillae are reddish brown, the labium dark brown and the sternum brownish yellow. The ground colour of the abdomen is brownish yellow. On the dorsal surface is a darker brown area extending from the front to the spinnerets and bordered on each side by a stripe of yellowish white hair. The legs are yellowish brown with dark transverse spots above the femora, patellae and tibiae.

The carapace is rounded at the sides and rises very steeply from the posterior margin to a line between the second and third pairs of legs. It is thickly clothed with hair. The fovea is deep and longitudinal. The four anterior eyes (text-fig. 144) are small, the medians slightly larger than the laterals. They are in a recurved line. The four posterior eyes are large and in a strongly recurved row, which is longer than the front row. The posterior laterals are mounted on prominent tubercles. The chelicerae are densely clothed in front with long hairs and short hairs all of which are directed downwards. The promargin has a large tooth and a small tooth close together near the basal end of the furrow (text-fig. 145). The retromargin has four large teeth about equal in size. The maxillae are narrow at the base and increase in width distally. The labium is more than half as long as the maxillae and truncate in front. The sternum is cordate, flat and covered with short recumbent hairs intermingled with long projecting hairs. The legs are long and tapering. They are clothed with long hairs and armed with spines. The tarsi and metatarsi are scopulate. The tarsi are flexible and provided with three claws, the upper claws having nine or ten teeth, the lower claw three. The abdomen is somewhat long, narrower than the carapace and bluntly rounded in front. It is widest near the middle and from there decreases in width posteriorly. The dorsal surface is clothed with recumbent short hairs. In front there are also long erect hairs. The epigynum is almost hidden by the dense clothing of hairs on the ventral surface. Text-fig. 146 shows its appearance after removal of the hairs covering it.

Dolomedes australianus is sometimes seen resting on logs or rocks overhanging creeks. Its long legs are spread out in a radial fashion and it quickly dives into the water if disturbed. It is able to remain submerged for nearly half an hour. The spider feeds largely on aquatic insects. Some species of **Dolomedes** have been recorded as catching small fish and tadpoles.



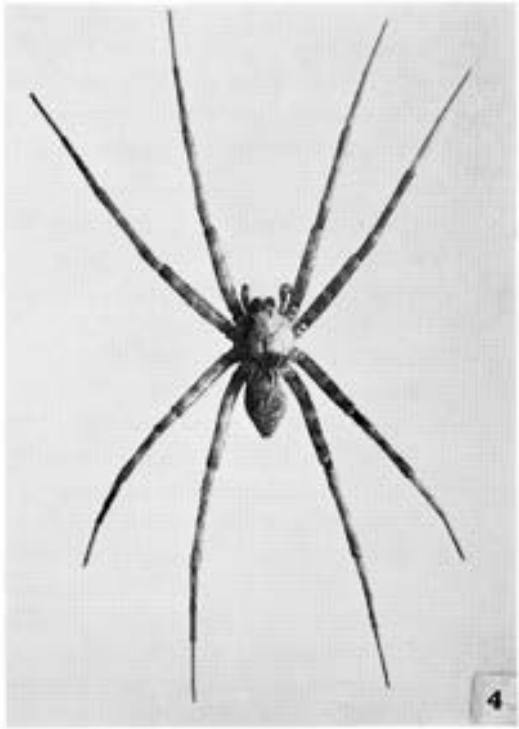


PLATE XIII.

Fig. 1.—*Oxyopes mundulus*, female with egg-sac.
Fig. 2.—*Lycosa tasmanica*, female.
Fig. 3.—*Lycosa simsoni*, female.
Fig. 4.—*Dolomedes australianus*, female.

F2

The egg-sac is more or less spherical and greyish brown in colour. It is carried by the female in her chelicerae. When the young are ready to emerge she attaches the egg-sac to a shrub near a creek. She then spins an irregular net work of threads amongst the surrounding leaves and branches forming a nursery web, in which the young spiders congregate before they disperse. A female kept under observation made her egg-sac at the end of December and the young emerged at the beginning of February.

Family **SALTICIDAE**

The spiders of this family have eight dark homogeneous eyes arranged in three rows. The front row has four large eyes directed forwards; the second row two small eyes placed well back on the head, and behind these the third row with two eyes of moderate size. The front median eyes are always the largest. The carapace is usually high and not narrowed in front. The chelicerae lack a boss. Both margins of the furrow are toothed and the promargin has a scopula. The labium is free and the maxillae are parallel. The legs are armed with spines and adapted for jumping. The tarsi have claw tufts and two claws, which are toothed and usually dissimilar. There are two rows of trichobothria on the tibiae, one row on the metatarsi and tarsi. Scale-like hairs are often present on the body and appendages. A cribellum and calamistrum are absent. Six spinnerets are present but a colulus is lacking.

The spiders of this family are known as jumping spiders. The group is a very large one and most of our Tasmanian species have not been identified.

PLEXIPPUS VALIDUS Urquhart, 1893
(Pl. XIV, fig. 1)

This spider is very common under the loose bark of eucalypts in lightly-wooded sunny areas. It is widespread in the State.

The adult female is from 8.0 to 10.0 mm. in body length. The carapace is reddish brown in the middle and dark brown, almost black, at the sides and on the head region. It is clothed with recumbent hairs and erect bristles. Some of the hairs are white, some black, and others reddish. A white fringe is present on the front margin. The anterior row of eyes is recurved. The laterals are about one third the diameter of the medians. The eyes of the second row are nearer to the first row than to the third. The eyes of the third row are slightly smaller than the front laterals. The chelicerae are stout, reddish brown, rugose and clothed with a few white hairs. The promargin of the furrow is furnished with a tricuspid tooth and the retromargin with a bicuspid tooth. The labium and maxillae are dark brown and clothed with a few black hairs. The sternum is ovate, yellowish brown and with a light covering of hairs. The legs are yellowish brown with dark brown rings. The two tarsal claws of the first leg are dissimilar, the proclaw being furnished with 29 teeth, the retroclaw with six. Claw tufts are strongly developed. The abdomen is ovate, rather flat above and pointed behind. The colouration and markings are variable. On the anterior half of the dorsal surface there is usually a narrow median area of brown. Behind this are five dark chevrons. On each side is a large fawn region. The surface is clothed with coarse black, white and

reddish hairs. The epigynum (text-fig. 147) is oval in shape and marked by ridges in the form of a pair of involutes.

The adult male varies in body-length from 8.0 mm. to 10.0 mm. and resembles the female in colouration. It differs, however, in the form of the chelicerae and in having much longer anterior legs. The chelicerae (text-fig. 148) are bowed outwards leaving an obovate space between them. The fang is short and strong. The promargin of the furrow is furnished with a tricuspid tooth and the retromargin with a bicuspid tooth. The front surface is marked with transverse wrinkles and provided with a low conical apophysis slightly above the tricuspid tooth. The palp has the form shown in text-fig. 149.

This spider spins a cocoon-like nest of white silk, in which it makes its egg-sacs. The nest is very soft and woolly. It is made under the loose bark of eucalypts. Adult males and females are usually found in the summer and autumn.

BAVIA LUDICRA (Keyserling, 1882)
(Pl. XIV, fig. 2)

This is probably the largest jumping spider found in Tasmania. It occurs mainly in loose rolls of eucalypt bark, that have been caught up in trees and shrubs. It has been found at Trevallyn in the north and Risdon in the south of the State.

The adult female is from 10.0 mm. to 13.0 mm. in body-length. The carapace is reddish brown and dark between the eyes. It is clothed with recumbent white hairs and projecting bristles, some of which are black, others white. The chelicerae are dark reddish brown clothed with white hair. The labium and maxillae are reddish brown. The sternum is dark brown and covered with white hairs. The abdomen is clothed above and on the sides with pale yellow hairs. The dorsal surface has two velvet black longitudinal bands, between which is a median white band, the posterior half of which has a serrate margin. The middle of the ventral surface is black.

The carapace is slightly rounded at the sides, narrower behind than in front, and somewhat flat above. The fovea is short and in a slight depression immediately behind the third row of eyes. The front median eyes are close together. The front laterals are separated from the medians by about half their diameter. The eyes of the second row are very small and nearer to the first row than to the third. The posterior eyes are on projecting tubercles and slightly smaller than the front laterals. Immediately below the front margin the chelicerae are somewhat geniculate. They then extend vertically downwards and are somewhat transversely wrinkled. They are clothed with long hairs that project downwards. The promargin of the furrow has two small teeth, the retromargin a single larger tooth. The maxillae are parallel, flat, and narrow at the base. The labium is more than half their length. The sternum is flat, elongate, narrow, slightly rounded at the sides, with a long truncate front end and a short pointed hind end. It is shining and clothed with long projecting hairs. The first pair of legs are thicker and stronger than the others. All the legs are armed with spines. There are two dissimilar tarsal claws. In the first pair of legs the proclaw has about 26 teeth, the retroclaw ten. The abdomen is almost twice as long as wide and rounded in

TEXT-FIGURES
147-154

Plexippus validus
Fig. 147.—Epigynum.
Fig. 148.—Chelicera of male.
Fig. 149.—Palp of male.
Bavia bodiera
Fig. 150.—Epigynum.
Fig. 151.—Chelicera of male.
Fig. 152.—Palp of male.
Brocha jovialis
Fig. 153.—Epigynum.
Fig. 154.—Palp of male.

front and behind. The upper surface and sides are densely clothed with long recumbent hairs and widely scattered projecting bristles. The lower surface is thinly clothed with short recumbent hairs. The epigynum has the form shown in text-fig. 150.

An adult male, taken in association with a female, is 10.0 mm. in body-length, and differs considerably from the female in colouration and markings. The cephalothorax and appendages are black. The carapace rises steeply behind and at the sides. It is somewhat flat above the head region. At each side of the head and in front of the fovea is a patch of white scales, the rest of the surface being clothed with black hairs and bristles. A dense fringe of long hairs projects forwards above the first row of eyes. The abdomen is black with a broadly X-shaped patch of white scales on the posterior half of the dorsal surface. The rest of the surface is clothed with black hairs and fine bristles. The chelicerae (text-fig. 151)

are narrow, flat and transversely wrinkled in front, with a longitudinal ridge extending the full length of the inner margin. There are two teeth on the promargin of the furrow and one on the retromargin. The fang is strong and thickened in the basal half with a slight rounded projection above the base. The front legs are longer and stouter than those of the female. The form of the palp is shown in text-fig. 152.

(The spider described by Keyserling (1882, p. 1328) as the male appears to belong to another species).

As mentioned above *Bavia ludicra* is usually found in rolled bark caught up in shrubs and trees. Less frequently it occurs under the loose bark on eucalypts. Males and females are sometimes found together during September and early spring.

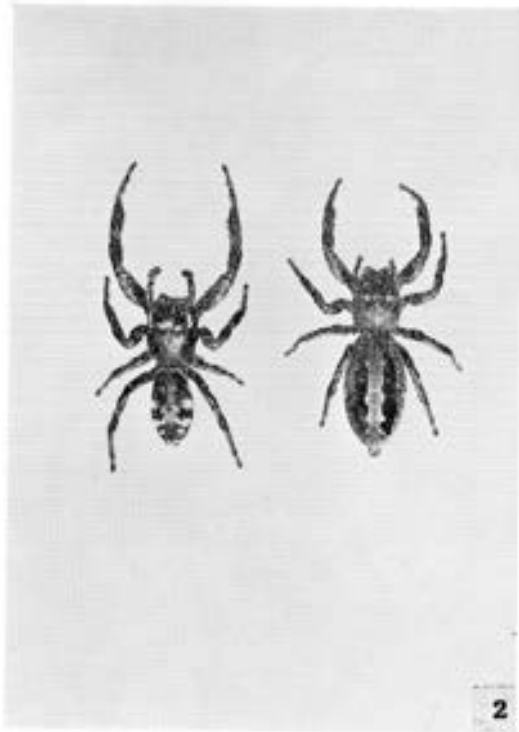
BREDA JOVIALIS (L. Koch, 1879).

(Pl. XIV, figs. 3-4)

This little jumping spider is often found on fences and the outside walls of houses. It also occurs under the loose bark of trees in many localities in Tasmania.

The adult female has a body-length of about 9.0 mm. The carapace is black, sometimes with a bluish sheen. It is clothed with recumbent brownish yellow hair and white scales. The front median eyes are bluish, the others black. The chelicerae are black, clothed with brownish hairs and with some white scales on the basal half. The maxillae and labium are dark brown; the sternum black clothed with yellowish white hairs. The femora of the legs are black, the other segments reddish yellow. The clothing of the legs consists of greyish brown hairs and white scales. The abdomen is black with a narrow transverse band of white scales on the anterior third of the dorsal surface. On the posterior half there are two similar transverse bands and between them a large golden yellow spot with a pair of lateral projections. Above the spinnerets is a brownish yellow diamond-shaped patch.

The carapace is moderately high and the fovea short. The front row of eyes is very slightly recurved. The anterior laterals are equal in size to the eyes of the third row. The small eyes of the second row are on a line midway between the first and third rows. Immediately below the front margin the chelicerae are somewhat geniculate and then descend vertically. The inner surfaces diverge slightly. The fang is long and well curved. There is a single bicuspid tooth on the promargin of the furrow and a large conical tooth on the retromargin. The labium is more than half the length of the maxillae. It is rounded and slightly emarginate at the apex. The sternum is oval, broad posteriorly, and narrowed between the first coxae. The first legs are stouter than the others. Their femora are arched above, lightly clothed with long hairs below and without spines. Their tibiae are short, not longer than the patellae, and also without spines. Their metatarsi are tapering, about equal in length to the tarsi and armed below with two short spines. The second legs are somewhat stouter than the two hind pairs and their metatarsi have two pairs of short spines on the ventral surface. The abdomen is rather long, bluntly rounded in front, slightly curved at the sides and running to a point at the spinnerets. The anterior spinnerets are short and conical; the posterior pair longer, cylindrical and two-segmented. The form of the epigynum is shown in text-fig. 153.



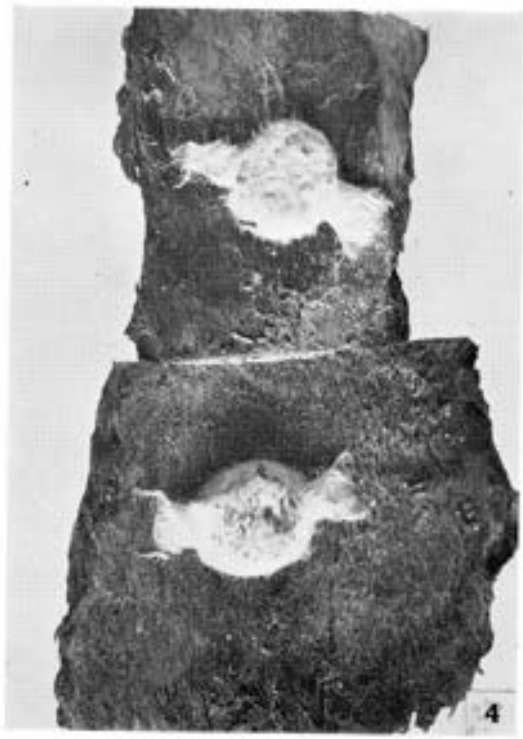


PLATE XIV.

Fig. 1.—*Plexippus validus*, female.
Fig. 2.—*Bavia ludicra*, male and female.
Fig. 3.—*Breda jovialis*, female.
Fig. 4.—Nests of *Breda jovialis*.

The adult male is about 6.0 mm. in body-length and has much the same appearance as the female. The chelicerae, however, are not geniculate. The yellow spot between the two white bands on the posterior half of the abdomen is triangular. There are two white spots, one on each side, slightly above the spinnerets. The form of the palp is shown in text-fig. 154.

The nest made by *Breda jovialis* is shown in Pl. XIV, fig. 4. It is composed of tough yellowish silk and is almost circular with a short cylindrical entrance on opposite sides. In the bush the nests are generally made under the loose bark of eucalypts. On fences they are made in spaces between palings and boards. Mature males and females occur in spring and summer.

Family **DRASSIDAE**

This family is also known as the Gnaphosidae. Its members have eight heterogeneous eyes arranged in two rows. The posterior medians are often irregular in shape. The thoracic fovea is longitudinal. The chelicerae have a boss and promarginal scopula. Both margins of the furrow are toothed or the retromargin sometimes provided with a keel. The labium is free. The maxillae are usually converging and marked with an oblique depression. The sternum is often rebordered with points opposite the bases of the coxae. The legs are usually armed with spines and their tarsi provided with a scopula and claw tufts. There are numerous trichobothria on the tibiae, a single row on the metatarsi and two rows on the tarsi. Two claws are present. They may be either similar or dissimilar, toothed or smooth. There are six spinnerets, the anterior pair being usually cylindrical and longer than the posterior pair. A cribellum, calamistrum and colulus are absent.

The spiders of this family do not spin a web for the capture of prey. They sometimes make a small sac-like or tubular nest in which to moult. They generally hunt their prey at night.

The family is well represented in Tasmania but only a few of the species have been identified and recorded.

HEMICLOEA TASMANI Dalmas, 1917
(Pl. XV, figs. 1-2)

This spider frequently occurs in houses as well as in the bush. Its very flat body and laterigrade legs enable it to occupy very shallow spaces. It is widely distributed in the State.

The adult female is about 13.0 mm. in body-length. The carapace is yellowish brown clothed with fine plumose hair and fringed with black bristles round the margin. The chelicerae, maxillae and labium are dark reddish brown; the sternum and legs yellowish brown. The abdomen is greyish brown with the sides slightly darker. A faint brownish median stripe is present. The spinnerets are dark brown.

The carapace is flat with the radial grooves and fovea strongly marked. The chelicerae are stout, convex and projecting forwards. The distal half is clothed with black bristles, the basal half being smooth and polished. Lateral bosses are well developed. The promargin has three teeth, of which the middle one is the largest. The retromargin has two teeth. The maxillae are almost parallel and

narrow at the base. The labium is longer than wide, truncate in front and more than half the length of the maxillae. The sternum is oval, narrowed and truncate in front between the first coxae, and rounded behind. The margin is rebordered and has points opposite the bases of the coxae. The legs are laterigrade and clothed with projecting long hairs and recumbent short plumose hairs. The tibiae of the first and second pairs of legs are without spines; all the other tibiae and the metatarsi are furnished with a few spines. All the tarsi and the first and second metatarsi are scopulate. Two tarsal claws are present. Those of the first pair of legs are dissimilar, the proclaw having twelve small teeth and the retroclaw three larger teeth. The abdomen is flat, long oval in outline, clothed with fine recumbent hairs and with some long projecting hairs in front. The spinnerets are long and cylindrical, the anterior pair being slightly stouter than the posterior pair and separated by about half their diameter at the base. The form of the epigynum is shown in text-fig. 155.

The adult male is about 10.0 mm. in body-length and resembles the female in colour and general appearance. The palp (text-fig. 156) has a curved pointed apical apophysis on the retrolateral side of the tibia.

This spider is often found under the loose bark of eucalypts as well as between palings, and boards on buildings. The egg-sac is almost disc-like and made of white silk. It is not unusual for the spider to make two egg-sacs which partially overlap. The egg-sacs are made during November and December. The eggs hatch in from 19 to 29 days, but the young spiders do not emerge from the sacs for nearly another four weeks. Adult males usually occur in the autumn.

LAMPONA CYLINDRATA (L. Koch, 1866)
(Pl. XV, fig. 3)

Like the preceding species this spider is often found in houses and other buildings as well as in the bush. It is widespread in Australia and New Zealand. It occurs throughout Tasmania.

The adult female is about 13.0 mm. in body-length. The carapace and sternum are black and clothed with grey hairs. The chelicerae, maxillae and labium are dark brown. The first and second legs are reddish brown, the third and fourth brownish yellow with the apex of the tibiae and upper surface of the femora black. The abdomen is dark brown to almost black above and somewhat lighter below. Above the spinnerets there is a white spot. In many specimens there are also two pairs of faint white spots on the dorsal half. These latter spots are strongly marked in the newly emerged young, but as the spider approaches maturity the spots become indistinct. The front pair of spinnerets are dark brown, the hind pair brownish yellow.

The carapace is narrow in front, rounded at the sides, coarsely wrinkled and clothed with recumbent plumose hair. The head region is not delimited from the thorax by a well marked groove. Viewed from the front the anterior row of eyes appears strongly procurved, the laterals being at a lower level than the medians. The hind row is not so strongly procurved as the front row, and very little longer. The posterior medians are flat, oval and poised obliquely diverging towards the front. The anterior medians are the largest of the group and further from one

another than they are from the front laterals. The chelicerae are shining, geniculate, and clothed with long projecting hairs. The fang is well curved. The promargin of the furrow has three blunt teeth, the retromargin none. The maxillae are converging and have their lateral margins raised into a ridge, the surface between the two ridges being coarsely wrinkled. The labium is more than half the length of the maxillae and truncate in front. The sternum is long, narrow, slightly rounded at the sides, pointed behind, narrowed between the first coxae, and truncate in front. Its surface is pitted and wrinkled. The margin is rebordered and produced into points opposite the bases of the coxae and also between them. The legs are shining, clothed with short hairs and devoid of spines. The first and second pairs are stouter than the others and their metatarsi and tarsi have a dense scopula. There are two tarsal claws. In the case of the first leg the proclaw has three teeth and the retroclaw two. The abdomen is almost twice as long as wide, and bluntly rounded in front and behind. It is clothed with long recumbent plumose hairs. The hind spinnerets are stouter and longer than the front pair. The latter are separated by about once their diameter. The form of the epigynum is shown in text-fig. 157.

The adult male is about 11.0 mm. in body-length and has the same colouration as the female. The body, however, is more slender, the abdomen being three times as long as wide. On the front half of the dorsal surface is a narrow reddish brown chitinous shield that extends almost midway to the posterior end. The palp (text-fig. 158) has a large curved pointed apophysis on the retrolateral side of the tibia.

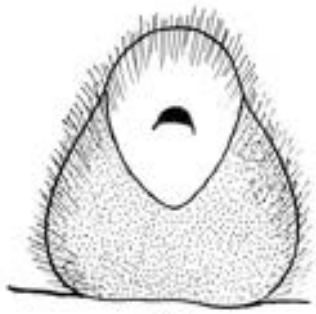
In the bush *Lampona cylindrata* is usually found under the loose bark on trees and sometimes in crevices between slabs of rock. In houses and buildings it often occurs amongst boxes and bags that have not been moved for some time. The spider feeds largely on other spiders especially on those of the genus **Ixeuticus.** Sometimes it is found living in close proximity to the web of *Ixeuticus robustus* and has been observed to enter the web and prey upon the recently emerged young of that species.

The egg-sac is lenticular, composed of white silk and sometimes decorated with particles of debris from the surroundings. It is made in spring or summer. The young emerge in about 60 days and immediately spin a communal sheet web under which they congregate. They disperse in about a week after emergence. Adult males are found from November to April.

According to Musgrave (1950) the bite of this spider may prove harmful to man.

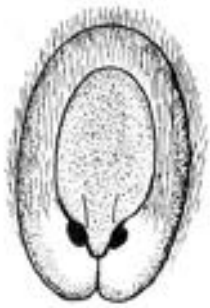
TRACHYCOSMUS SCULPTILIS Simon, 1893
(Pl. XV, fig. 4)

This little spider is one of the most common Drassids in Tasmania. It is found on the underside of loose stones in many parts of the State and is very numerous on the hills near Trevallyn in the north and on the Queen's Domain in the south.



155

156



157

158

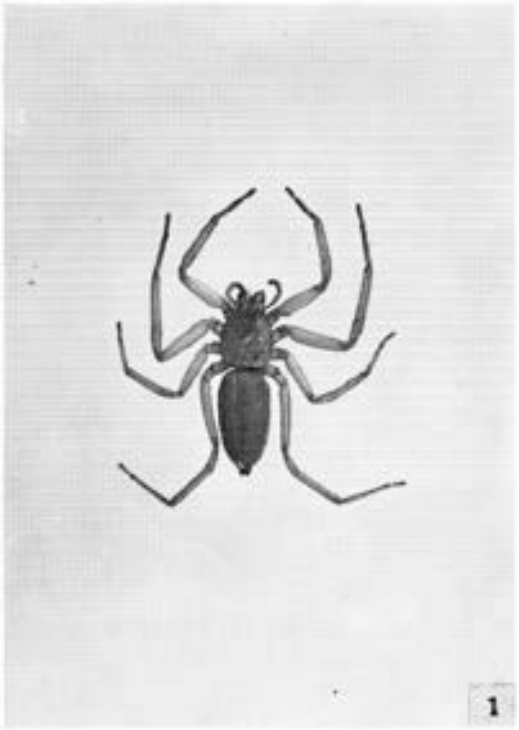
159

160

TEXT-FIGURES
155-160

Hemicloea tasmani
Fig. 155.—Epigynum.
Fig. 156.—Palp of male.
Lampona cylindrata
Fig. 157.—Epigynum.
Fig. 158.—Palp of male.
Trachyprocnus scalptilis
Fig. 159.—Epigynum.
Fig. 160.—Palp of male.

The adult female is from 5.0 to 6.0 mm. in body length. The carapace is dark chestnut in colour, very broad and truncate in front and somewhat depressed above. The radial grooves are indistinct and the fovea very short. The eyes are small and subequal. The front row is slightly procurved and the medians are nearer to one another than to the laterals. The hind row is longer than the front row and slightly recurved. The posterior median eyes are somewhat angular and well removed from the posterior laterals. The ocular quadrangle is wider than long. The chelicerae are dark red and shining. They are stout, geniculate and furnished with three teeth on the promargin and two on the retromargin. The labium is very little longer than wide and has a rounded apex. The maxillae are slightly divergent. The sternum is ovate, convex, yellowish brown in the middle and darker round the margin. The legs are brown with dark bands. The patellae of the first pair of legs are longer than those of the other legs, and the coxae are more robust than the other coxae. The tarsi and metatarsi of the first and second legs are thinly scopulate. All the legs are lightly clothed with hairs and are devoid of spines. There are two tarsal claws and well developed claw tufts. The claws are similar and lack teeth. The abdomen is somewhat coriaceous, truncate in



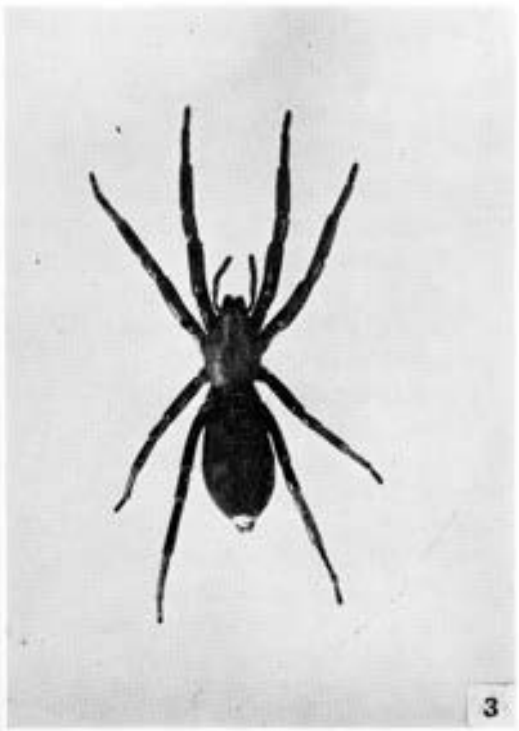


PLATE XV.

Fig. 1.—*Hemicloea tasmani*, female.
Fig. 2.—*Hemicloea tasmani*, female with two egg-sacs.
Fig. 3.—*Lampona cylindrata*, female.
Fig. 4.—*Trachycosmus sculptilis*, female.

front, somewhat depressed above and widened and rounded posteriorly. It is dull brown, almost black, in colour with a median wedge-shaped mark on the front half of the dorsal surface. Behind the mark is a series of four or five pale chevrons, and on each side of it several light coloured streaks. The epigynum (text-fig. 159) is somewhat flat, yellow and shining.

The adult male resembles the female in size, colouration and general appearance. The form of the palp is shown in text-fig. 160.

The egg-sac is white, lenticular and attached to the under side of loose stones. The outer covering of the egg-sac is tough and parchment-like. Mature males and females occur in spring and summer.

Family **CLUBIONIDAE**

The spiders of this family have eight homogeneous eyes arranged in two rows of four each. The chelicerae are powerful, convex and furnished with a boss and scopula. The fang furrow is oblique and both margins have teeth. The labium is free. The maxillae are parallel, usually wide at the distal end, and devoid of an oblique depression. The legs are prograde and the tarsi and metatarsi generally scopulate. Trichobothria are in one row on the tibiae and metatarsi, and in two rows on the tarsi. Two tarsal claws and claw tufts are present. The claws are usually toothed. There are six spinnerets, the anterior pair being conical and close together. A cribellum, calamistrum and colulus are absent.

About ten species belonging to this family have been recorded from Tasmania, but this is only a small proportion of the Clubionidae occurring in the State.

Members of the family do not spin webs for the capture of prey. They live in tubular or sac-like nests among fallen leaves, in grass tussocks, under loose stones or under the loose bark of trees.

CHIRACANTHIUM STRATIOTICUM L. Koch, 1873
(Pl. XVI, figs. 1-2)

This spider is often found amongst garden shrubs. It sometimes enters houses but its normal habitat is amongst long grass in open sunny situations. It is common throughout the State and also occurs on the mainland and in New Zealand.

The adult female is about 9.0 mm. in body-length. The carapace is brownish yellow and clothed with pale yellow recumbent silken hairs. The head region is not delimited from the thorax. There is no distinct fovea but a slight depression. The front row of eyes is straight and the median ocular quadrangle wider behind than in front. When viewed from above the posterior row appears procurved. The front median eyes are circular and the largest of the group. The laterals are oval and well-separated from the medians. The chelicerae are yellowish brown becoming dark brown distally. They are directed slightly forwards. The fang is long and curved. The margins of the furrow are strongly oblique and both are fringed with long hairs. The promargin has three teeth, the middle tooth being the largest. The retromargin also has three teeth but the basal one is minute and difficult to see. The labium is more than half the length of the maxillae, slightly excavated on each side at the base and truncate in front. The sternum is cordate, slightly convex, pointed behind, shining and clothed with fine projecting hairs. It has shallow marginal impressions between the bases of the coxae. The legs are

clothed with short hairs and, on the tibiae and metatarsi, also with long erect hairs. All metatarsi and tarsi are scopulate but the metatarsi of the two hind pairs of legs are scopulate only on the distal half. The two tarsal claws of the first legs are dissimilar, the proclaw having twenty one teeth and the retroclaw eleven. The abdomen is oblong, rounded in front and at the sides, and running to a point towards the spinnerets. The epigynum has the form shown in text-fig. 161.

The adult male is almost as long as the female and of similar appearance. The thoracic fovea, however is more distinct. The chelicerae are longer and narrower; the fang somewhat sinuous. The promargin and retromargin each have two teeth and a fringe of long hairs. The palp (text-fig. 162) has a short basal spur on the tarsus and a sharp somewhat sinuous apophysis on the retrolateral side of the tibia. The length of the tibia is slightly more than one and a half times that of the patella.

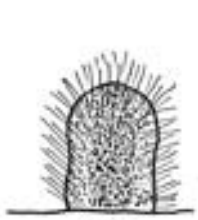
This spider has the habit of making a rounded cocoon-like nest attached to the seed-head of grasses (Pl. XVI fig. 2). Within the nest the spider makes is egg-sac. Mature males and females are usually found in the spring and early summer.

CLUBIONA ELAPHINES Urquhart, 1893
(Pl. XVI, fig. 3)

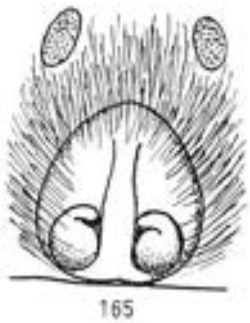
This spider is one of the largest species in the genus *Clubiona*. Four specimens of it were sent to Mr Urquhart by Mr Alex. Morton in 1892. All four specimens came from the Queen's Domain. The spider is still abundant at that locality and also at many other places in the State.

The adult female has a body length of 15.0 - 18.0 mm. The carapace is brownish orange, the head region chestnut. It is clothed with recumbent yellowish hairs intermingled with erect fine black bristles. Viewed from above the front row of eyes is almost straight and the hind row procurved. The eyes of the anterior row are larger than those of the posterior row. The median ocular quadrangle is wider behind than in front and the hind row is much longer than the front row. The fovea is distinct and longitudinal. The chelicerae are reddish brown and clothed in front on the distal half with a few bristle-like hairs. They project forward and are provided with large bosses. The inner surface has a longitudinal ridge extending from the proximal end of the furrow to the base. The promargin of the furrow has three teeth, the middle one being the largest. The retromargin has two teeth. The maxillae are reddish brown, somewhat divergent and with a longitudinal groove on the inner margin adjacent to the labium. The latter structure is reddish brown, more than twice as long as wide, and emarginate at the apex. The sternum is brownish yellow, long ovate, and furnished with eminences opposite the coxae. The surface is clothed with fine recumbent hairs and towards the margin with erect black bristles. The legs are brownish yellow, the metatarsi and tarsi of the first two pairs being darker. The femora, tibiae and metatarsi of all the legs carry spines. A dense scopula extending onto the tibiae is present on the metatarsi and tarsi of the first and second legs. A lighter scopula is found on the tarsi and metatarsi of the third and fourth legs. The tarsal claws of the first legs are dissimilar, the proclaw having eleven small teeth and the retroclaw three large teeth. The abdomen is long ovate, rounded in front and

somewhat pointed posteriorly. It is clothed with fine light yellow hairs intermingled with erect black hairs. There is a dark median mark on the basal third of the dorsal surface, followed by a series of broad chevrons decreasing in size towards the posterior end. On the sides of the abdomen are several large tooth-like marks pointing inwards. The epigynum has the form shown in text-fig. 163.


161

163


165

162

164

166

TEXT-FIGURES
161-166

Chiracanthium stratioticum
Fig. 161.—Epigynum.
Fig. 162.—Palp of male.
Clubiona claphinea
Fig. 163.—Epigynum.
Fig. 164.—Palp of male.
Miturga apfelensis
Fig. 165.—Epigynum.
Fig. 166.—Palp of male.

The adult male is 12.0-15.0 mm. in body-length and resembles the female in general appearance. The form of the palp is shown in text-fig. 164.

This spider is found under the loose bark on eucalypts and sometimes in rolled bark that has been caught up in trees. It makes a large oval nest of white silk,

in which it moults and makes its egg-sac. During spring and early summer it is not unusual to find both sexes occupying the one nest. Egg-sacs are generally made during December and January.

MITURGA AGELENINA Simon, 1909
(Pl. XVI, fig. 4)

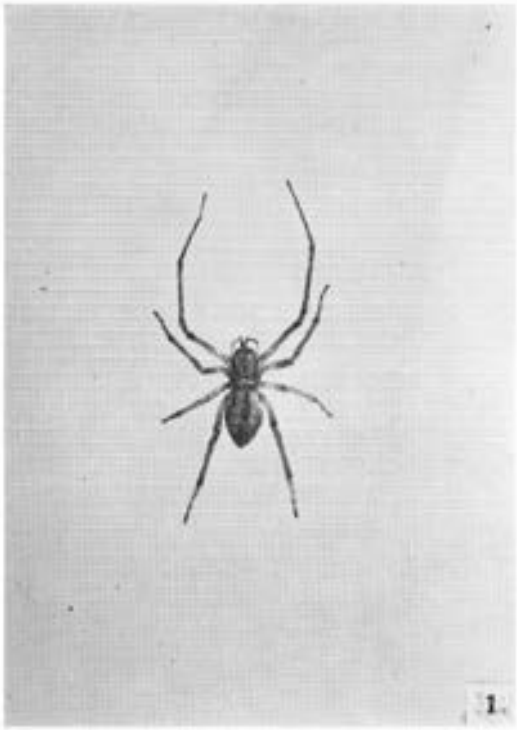
Five different species belonging to the genus **Miturga** have been recorded from Tasmania. They are all large spiders usually found under loose stones. Some occur only on the mountains and central plateau. *Miturga agelenina* is the most common and is found both at sea level and at higher altitudes.

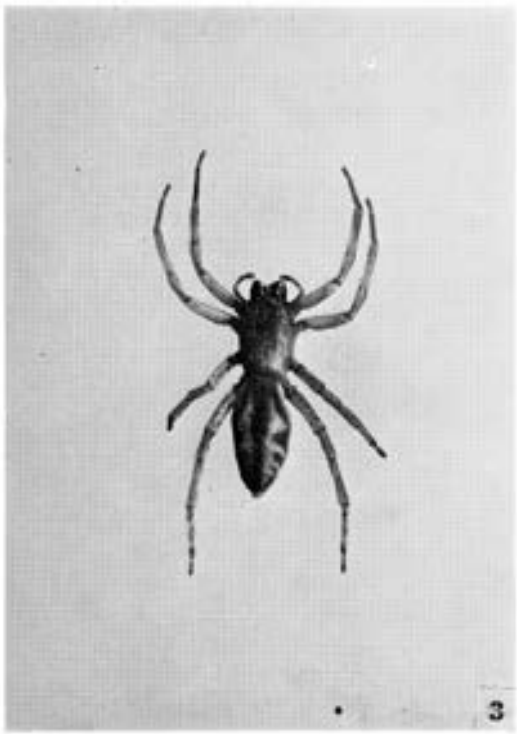
The adult female is 18.0 - 20.0 mm. in body-length. The carapace is yellowish brown with a dark brown margin and also two longitudinal dark brown stripes, one on each side. It is clothed with pale yellow and black hairs. Viewed from above both rows of eyes appear slightly recurved. The hind row is a little longer than the front row. The median ocular quadrangle is longer than wide. The fovea is dark and longitudinal. The chelicerae are dark brown and clothed with black bristle-like hairs and white hairs. The promargin of the furrow has three teeth, the retromargin two. The maxillae are broad, parallel, and dark brown with a yellowish inner surface. The labium is wider than long and less than half the length of the maxillae. It is dark brown with a yellow apex. The sternum is shining brownish black and almost as broad as it is long. It is lightly clothed with coarse black hairs. The legs are yellowish brown, and clothed with pale yellow hairs. All the tibiae bear spines. All the metatarsi and tarsi are densely scopulate. The trochanters are notched on the ventral apical margin. The two tarsal claws of the first legs are similar and furnished with five teeth. The abdomen is oblong. The dorsal surface is dark fawn minutely speckled with yellow. Extending from the front to the hind end are two rows of yellow spots decreasing in size posteriorly. On the outer side of each row is a thin broken black line. The ventral surface is mainly black with four longitudinal stripes composed of contiguous yellow dots. The epigynum has the form shown in text-fig. 165. It is reddish brown and shining. In front of it are two oval sclerites one on each side.

The adult male is 15.0-17.0 mm. in body-length and closely resembles the female in appearance, the tarsal segment of the palp being little expanded. The form of the palp is shown in text-fig. 166.

This spider is usually found in open sunny situations and avoids the dense forest and shady gullies. The nest made by young specimens is long and tubular. In the case of older specimens it is expanded and somewhat flattened. It is made of dense white silk and usually attached to the underside of a loose stone. Sometimes, however, the nest is made in grass tussocks or dense shrubs such as gorse. In the latter case it may be two or three feet from the ground, but usually it is close to the ground. The nest may have two or more openings.

Males and females are often found in the one nest during November and December. The egg-sacs are planoconvex and woven into the side of the nest. They are made during the early summer and sometimes four are found in the one nest.





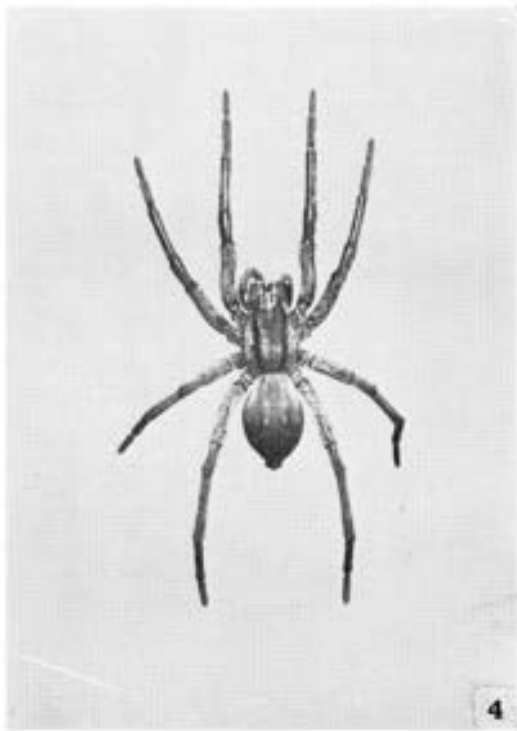


PLATE XVI.

Fig. 1.—*Chiracanthium stratioticum*, female.
Fig. 2.—Nest of *Chiracanthium stratioticum* with side cut open to show egg-sac.
Fig. 3.—*Clubiona elaphinea*, female.
Fig. 4.—*Miturga agelenina*, female.

Family **SPARASSIDAE**

Spiders belonging to this family have eight dark homogeneous eyes arranged in two rows. The chelicerae are strong and have a boss and scopula. Both margins of the furrow are furnished with teeth. The legs are laterigrade, armed with spines, and scopulate on the metatarsi and tarsi. Claw tufts and two tarsal claws are present. The claws may be toothed or smooth. Trichobothria are numerous on the tibiae, metatarsi and tarsi. There are six spinnerets. A cribellum, calamistrum and colulus are lacking.

The family includes the large spiders known as Huntsman Spiders, which are particularly well represented in Australia. About eighty species have been recorded from the mainland, but only four from Tasmania.

DELENA CANCERIDES (Walckenaer, 1805)
(Pl. XVII, fig. 1)

In Tasmania no spider is more familiar than this large Huntsman Spider, which is often called a tarantula or triantelope. The name tarantula is unfortunate since in other countries it is applied to certain spiders, which are not related to the Huntsman Spiders and do not resemble them in form or habits. *Delena cancerides* is one of the most common spiders found in houses and in the bush. Its flat body and laterigrade legs enable it to occupy very shallow spaces between boards, under roofing tiles, under loose bark and in many other situations.

The adult female has a body-length of about 25.0 mm. The carapace is flat and generally fawn or greyish brown in colour. It is strongly rounded at the sides and clothed with recumbent silky hairs. In front and at the sides there are long fine bristles. The head region is clearly marked off from the thorax and has a weak median groove. The front row of eyes is straight and close to the anterior margin. The front median eyes are larger than the others and separated by about half their diameter. The hind row also is straight and longer than the front row. Its eyes are equidistant and the medians are set in small depressions. The median ocular quadrangle is much wider behind than in front. The chelicerae are black and clothed with long reddish yellow bristles. The promargin of the furrow has a scopula of long hairs and is furnished with two teeth. The retromargin has four teeth. The fang is strong and well curved. The maxillae are broad and slightly convergent. The labium is free, truncate in front and about half the length of the maxillae. The sternum is yellowish brown and thickly clothed with long pale yellow hairs that are directed forwards. In shape it is cordate, flat and pointed behind. The legs are brownish yellow and densely clothed with yellowish hair. However, the hair on the underside of the tibiae of the first and second pairs of legs is greyish brown, as is also the scopula on the metatarsi and tarsi. The tarsal claws of the first legs are long and dissimilar, the proclaw having eighteen teeth and the retroclaw ten. The abdomen is truncate in front, rounded behind and somewhat flat above. It is not as wide as the carapace. The ground colour is greyish fawn. In most specimens a dorsal pattern is evident but in some it is indistinct. The pattern consists of a curved dark band in front of the dorsal surface, followed by three pairs of dark spots on the anterior half. The last pair

of spots unite with a dark median stripe extending to the posterior end. The spinnerets are brownish yellow. The form of the epigynum is shown in text-fig. 167.

The adult male is about 21.0 mm. in body-length and closely resembles the female in general appearance. The palp (text-fig. 168) has a long embolus wound into a close spiral.

In the bush *Delena cancerides* is usually found under the loose bark of eucalypts. Sometimes the spider makes an extensive nest by spinning coarse threads across cracks in the bark, thus sealing off a large cavity. At the top or side of the nest an entrance hole is left open. During October and November the female usually makes her large egg-sac, which is composed of white silk and attached to the wall of the nest. The sac is as large as a penny and may contain as many as 200 eggs. The young hatch in about 40 days, but generally do not emerge from the sac for another three weeks. The mother guards the egg-sac during the whole period and finally assists the escape of the young by tearing holes in the edge of the sac. Usually the young spiders do not disperse for some time. They may remain in the nest with the mother until they are more than half grown. Often at the bottom of the nest is a large accumulation of skins cast off by the young in a succession of moults, indicating that the nest has been occupied by the brood for a considerable time.

ZACHRIA SPENCERI (Hogg, 1903)
(Pl. XVII, fig. 2)

This spider, which has the appearance of a *Delena cancerides,* was first discovered by Sir Baldwin Spencer in 1888, and has been named after him. The original specimens came from King Island and were sent to the British Museum. In Tasmania the spider is generally found only at high altitudes. It is common on the summit of Mount Wellington and also occurs on Dry's Bluff and on Cumming's Peak.

The adult female is about 17.0 mm. in body-length. The carapace is flat, yellowish brown and clothed with short yellow hairs. The ocular region is somewhat darker in colour. Both rows of eyes are straight and the hind row much longer than the front row. The anterior median eyes are larger than the others. The ocular quadrangle is wider behind than in front. The chelicerae are black, shining and lightly clothed with long yellowish hairs. The promargin has two teeth and the retromargin four. There is a thick promarginal scopula. The maxillae are dark reddish brown, broad and slightly converging. The labium is also dark reddish brown, wider than long and less than half the length of the maxillae. The sternum is yellow, broadly shield-shape and pointed behind. The legs are yellowish brown with the first and second metatarsi and tarsi darker. All the femora, tibiae and metatarsi are furnished with spines. There is a dense scopula below the metatarsi and tarsi of all the legs. The two tarsal claws of the first legs are dissimilar, the proclaw having eighteen teeth, the retroclaw ten. The abdomen is somewhat truncate in front, rounded behind and flattened above. The ground colour is dull yellowish brown. On the dorsal surface and sides it is marked with numerous patches and streaks of black. In the median line there is

a yellowish stripe extending from the front to the middle. On each side of the stripe is a longitudinal row of about five yellow spots. The epigynum has the form shown in text-fig. 169.

The adult male is about 13.0 mm. in body-length and resembles the female. The form of the palp is shown in text-fig. 170. The embolus is not wound into a spiral and in this respect the spider differs markedly from *Delena cancerides*.

On the summit of Mount Wellington the spider is always found under slabs of rock that rest on other rocks leaving a shallow space between. In this space the spider makes its nest by sealing off a cavity with threads spun between the two rocks. The egg-sac is white and attached to the floor of the nest. It is almost as large as that of the preceding species and has the same form. It is made in early summer. Mature males and females occur throughout spring and summer.

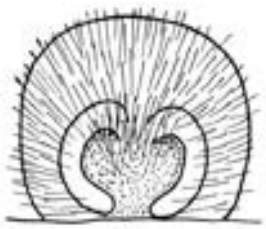
OLIOS DIANA (L. Koch, 1875)
(Pl. XVII, fig. 3)

This large brownish yellow spider sometimes enters houses and gardens but is normally found in the bush. It occurs in most parts of the State and on the mainland.

The adult female is about 22.0 mm. in body-length. The carapace is brownish yellow, clothed with hair of the same colour. On the head region are small yellow spots and a transverse stripe of yellowish white hairs between the two rows of eyes. The chelicerae are reddish brown and thickly clothed with long and short bristles. The maxillae and labium are reddish yellow. The sternum is brownish yellow and clothed with short recumbent pale yellow hairs. The legs are brownish yellow with yellowish white spots below the femora. The abdomen is dull brownish yellow above speckled with reddish brown. On the lower surface behind the epigastric furrow is a large black shield with two silver-white spots.

The carapace is convex, rounded at the sides and with a median linear depression on the posterior slope. Both rows of eyes are straight. The hind row is longer than the front row and its eyes slightly smaller. The median ocular quadrangle is wider behind than in front. The chelicerae are convex and shining. The promargin has two teeth and the retromargin four. There is a long dense yellowish red scopula in front of the promargin and a shorter scopula behind the base of the fang. The maxillae are broad and rounded on the outer side. The labium is only half the length of the maxillae and rounded at the apex. The sternum is cordate, shining, flat and pointed behind. The legs have spines on the femora, tibiae and metatarsi. All the metatarsi and tarsi are densely scopulate . Claw tufts are well developed and the two tarsal claws of the first legs are dissimilar, the proclaw having nineteen teeth and the retroclaw twelve. The abdomen is somewhat truncate in front, slightly rounded at the sides and running to a point posteriorly. The form of the epigynum is shown in text-fig. 171.

The adult male is about 17.0 mm. in body-length and resembles the female in appearance. The palp (text-fig. 172) has a long coiled embolus. There is a sharp curved apical apophysis on the retrolateral side of the tibia and two long yellowish spines on the prolateral side.



167

169

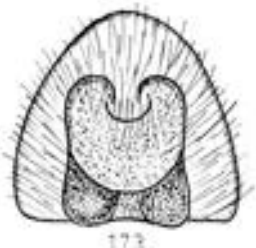
172

168

170

174

171



173

TEXT-FIGURES
167-174

Delena cancerides
Fig. 167.—Epigynum.
Fig. 168.—Palp of male.
Zachria spenceri
Fig. 169.—Epigynum.
Fig. 170.—Palp of male.

Olios diana
Fig. 171.—Epigynum.
Fig. 172.—Palp of male.
Olios patellatus
Fig. 173.—Epigynum.
Fig. 174.—Palp of male.

In the bush this spider is found in many different situations. It may occur under loose bark, amongst green or dead foliage, in rolled bark and sometimes under loose stones. When about to make her egg-sac the female encloses herself

in a large oval nest made by weaving together the leaves of a shrub or grass. The egg-sac is circular, cushion-shaped, about 18.0 mm. in diameter and 10.0 mm. deep. It is made of strong white silk and its wall is like paper. At first the egg-sac hangs by a thread from the top of the nest, but later the spider attaches it to the wall. It is usually made in October or early November. The female remains with it in the nest until the young emerge in January. The eggs in one egg-sac numbered 135.

OLIOS PATELLATUS (Karsch, 1878)

(Pl. XVII, fig. 4)

The original specimens of this spider were collected by Mr Schayer, who was superintendent of Woolnorth for the V.D.L. Coy. They were sent to Germany, where the species was named and described by Dr F. Karsch of the Berlin Zoological Museum. The spider is a close relative of *Olios diana* and sometimes mistaken for it. However, the two species are readily distinguished by the pattern under the abdomen and the colouration below the legs. The spider has been found at Devonport, Cressy, Nubeena and Sandy Bay and apparently is widely distributed in the State.

The adult female has a body-length of about 23.0 mm. Most of the body is densely clothed with reddish brown hair. On the median ocular area the hairs are yellowish. The chelicerae are dark brown with a red scopula. The maxillae, labium and sternum are also dark brown. A transverse area on the sternum immediately in front of the third pair of coxae is devoid of hairs and gives the appearance of a dark brown bar, the rest of the sternum being covered with reddish brown hair. The legs are densely clothed with reddish brown hair but the scopulae on the tarsi and metatarsi are dark brown and there are two dark brown bars across the underside of the tibiae. The hairs clothing the under surface of the patellae are violet. The abdomen has a thick covering of reddish brown hair but on the ventral side immediately behind the epigynum is a black, more or less T-shaped, area extending about half way to the spinnerets.

The carapace, chelicerae, maxillae, sternum and abdomen have the same form as in *Olios diana*. The shape of the epigynum is shown in text-fig. 173.

The adult male is about 20.0 mm. in body-length and resembles the female. The form of the palp is shown in text-fig. 174.

This spider is usually found in grass tussocks. When disturbed it sometimes turns over onto its back and extends its legs exhibiting the colours on the under-surface. Its nesting habits resemble those of the preceding species. The egg-sac has the same form as that of *Olios diana* and the same paper-like consistency, but is slightly larger and made of yellow silk.

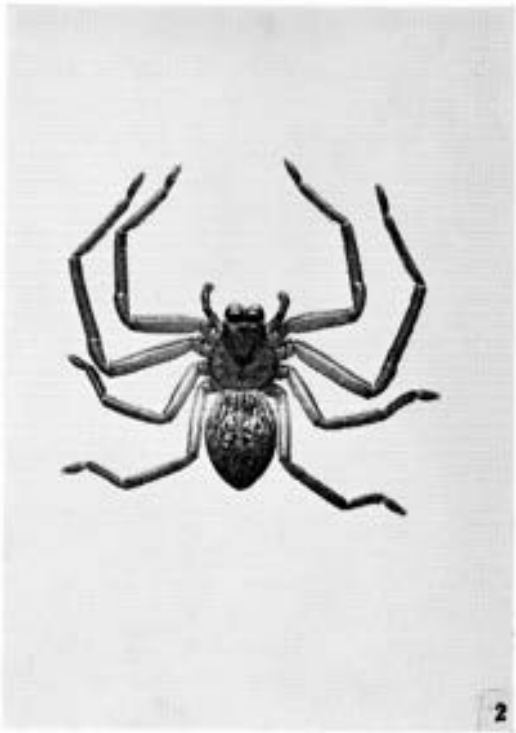


PLATE XVII.

Fig. 1.—*Delena cancerides*, female with egg-sac.
Fig. 2.—*Zachria spenceri*, female.
Fig. 3.—*Olios diana*, female.
Fig. 4.—*Olios patellatus*, ventral aspect of female.

Family **THOMISIDAE**

The members of this family are known as Crab Spiders. They have eight dark homogeneous eyes arranged in two rows. The chelicerae have a boss and are either without a scopula, or possess a very light one composed of only a few hairs. The margins of the fang furrow are generally without teeth. The labium is free and the maxillae strongly convergent. The posterior coxae are near together behind the sternum. The legs are usually laterigrade. A tarsal scopula is absent but claw tufts are sometimes present. There are two tarsal claws, which are toothed and either similar or dissimilar. Spurious claws are absent. Trichobothria are in two rows on the tibiae and metatarsi, in one row on tarsi. Six spinnerets and a colulus are present. A cribellum and calamistrum are lacking.

The family is well represented in Tasmania, but most of the species are small and escape notice. The majority of them have not been identified or described. The largest members belong to the genus **Stephanopis** O. Pickard-Cambridge.

STEPHANOPIS CAMBRIDGEI Thorell, 1870
(Pl. XVIII, fig. 1)

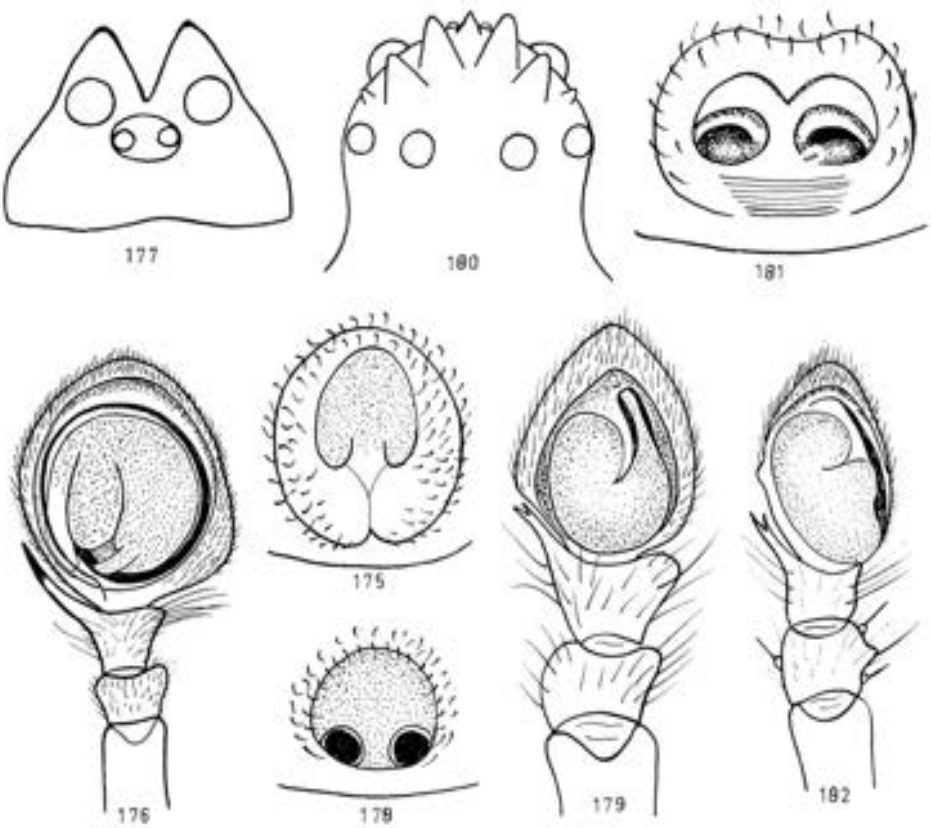
This spider is usually found under the loose bark on eucalypts and is widely distributed in Tasmania and on the mainland.

The adult female is from 10.0 mm. to 11.0 mm. in body-length. The carapace is brownish yellow, rounded at the sides, narrowed in front and somewhat flat above. Except for the hind slope it is very rugose and clothed with short clavate bristles and hairs, some of which are black and others white. In front the head region is raised into a sharply delimited elevation or ocular tubercle, which bears the anterior row of eyes in front and the posterior row behind. Extending from this elevated region of the head to the posterior slope are two parallel grooves marked with dark brown. The anterior median eyes are the smallest of the group and at a lower level than the much larger anterior lateral eyes. The eyes of the hind row are in an almost straight line and equidistant. On each side above the elevated head region is a row of coarse clavate bristles, and projecting forward above the anterior median eyes are two conspicuous white clavate bristles. The chelicerae are yellowish brown becoming dark brown on the inner surface. The fang is well curved and the furrow furnished with three teeth on the promargin and two on the retromargin. Both margins are lightly scopulate. The maxillae are yellowish brown and converging. The labium is brown, rounded at the apex and more than half the length of the maxillae. The sternum is yellowish brown with a dark median stripe and three pairs of dark marginal spots. It is broadly ovate and clothed with short hairs. The legs are mainly yellowish brown spotted with dark brown and clothed with clavate bristles and hairs. The first pair of legs are longer than the others and their femora larger and stouter than the other femora. Below the tibiae of the first legs are six pairs of strong dark brown spines, and five pairs of similar spines below the metatarsi. The fourth legs have two dark brown bands round the metatarsi. Claw tufts and tarsal scopulae are lacking. The claws of the first legs are almost similar, the proclaw having five teeth and the retroclaw four. The abdomen is truncate in front, wider and rounded behind, and somewhat flat above. It is yellowish brown above with a darker median area on

the anterior third. The dorsal surface and sides are strongly rugose and with coarse wrinkles. The clothing consists of white and black clavate spines and hairs. The spines at the hind end are longer than elsewhere. The ventral surface is clothed with short and fine clavate hairs but without spines. The form of the epigynum is shown in text-fig. 175.

The adult male is about 7.0 mm. in body-length and resembles the female in general appearance. However the spines below the tibiae and metatarsi of the first pair of legs are yellow, long, slender and needle-like. The palp has the form shown in text-fig. 176.

Apart from the fact that the spider is nearly always found under the loose bark of eucalypts, little is known concerning its habits. Mature males and females have been collected in the late autumn.



TEXT-FIGURES 175-182

Stephanopis cambridgei
Fig. 175.—Epigynum.
Fig. 176.—Palp of male.
Stephanopis lata
Fig. 177.—Head viewed from front.
Fig. 178.—Epigynum.
Fig. 179.—Palp of male.
Stephanopis scabra
Fig. 180.—Head viewed from above.
Fig. 181.—Epigynum.
Fig. 182.—Palp of male.

STEPHANOPIS LATA O. P. Cambridge, 1869
(Pl. XVIII, fig. 2)

The specimen, on which the original description of this spider is based, is in the Hope Collection at the University of Oxford and came from Van Diemen's

Land. The spider is not uncommon and occurs in both the north and the south of Tasmania.

The adult female is about 8.0 mm. in body-length. The carapace is dark reddish brown, almost black. It is very rugose the greater part of the surface being raised into ridges and coarse tubercles. It is lightly clothed with short-recumbent yellowish hairs and the tubercles bear black clavate spines. The part of the head region bearing the eyes forms a prominent elevation, which is deeply cleft above. When viewed from the front the eyes appear to be surmounted by two short blunt horns (text-fig. 177). The anterior median eyes are the smallest of the group and set at a lower level than the much larger anterior lateral eyes. The posterior eyes are in a straight line on the hinder surface of the elevation. They are about equal in size and equidistant. The chelicerae are dark reddish brown and have a tubercle in front on the basal half. The fang is well curved. The furrow has three teeth on the promargin and two on the retromargin. Both margins are scopulate. The maxillae are reddish brown, broad, and convergent. The labium is rounded at the apex and more than half the length of the maxillae. The sternum is broadly ovate, pointed behind and clothed with yellow and black hairs. The legs are dark reddish brown and clothed with fine yellow hairs and coarse black hairs. The femora, patellae and tibiae have large tubercles on the dorsal surface. The tarsi are furnished with two tarsal claws and claw tufts. The claws of the first legs are dissimilar. The proclaw has seventeen fine teeth close together, the retroclaw four stout teeth. The abdomen is truncate and slightly emarginate in front. The posterior end is wide, angular, sloping downwards and running to a point at the spinnerets. The dorsal surface is coarsely tuberculate and marked with ridges. The tubercles carry short clavate spines and the general surface is clothed with short coarse hairs. The posterior slope above the spinnerets is transversely wrinkled. The epigynum has the form shown in tex-fig. 178.

The adult male is about 6.0 mm. in body-length and resembles the female. The form of the palp is shown in text-fig. 179.

Mature males and females occur during spring and summer. The egg-case is made in October or November. It is white and planoconvex. The spider attaches it to the surface of a green leaf and covers it with a sheet of silk. The tip of the leaf is then bent over the egg-case and fastened down with silk. In this way the egg-case is completely wrapped up. The attachment of the leaf to the tree is then reinforced with silk threads, so that when the leaf is cast it does not fall to the ground. The spider remains with the leaf enclosing the egg-case until the young are ready to emerge. When not guarding the egg-case the spider is usually found resting on the trunk of a tree or beneath the loose bark.

STEPHANOPIS SCABRA L. Koch, 1874
(Pl. XVIII, figs. 3-4)

Like the preceding species this spider is usually found either on tree trunks or beneath the loose bark. The rugose nature of its body and legs harmonizes so closely with the bark, that the spider is difficult to see unless it moves (Pl.

XVIII, fig. 4). The species is widely distributed in Tasmania and on the mainland.

The adult female is about 9.0 mm. in body-length. The colour is extremely variable. Specimens taken on charred wood are usually quite black. In many cases the carapace is dark brown, except the posterior slope, which is brownish yellow. The surface is coarsely rugose being furnished with large tubercles bearing black clavate spines. It is lightly clothed with recumbent white hairs. On each side of the head region are three or four conical tubercles in a longitudinal row. In the middle of the thorax, immediately in front of the fovea, is a large conspicuous tubercle. The part of the head bearing the eyes is strongly elevated and somewhat constricted at the base forming a neck-like region (text-fig. 180). On the summit of the elevated part are two pairs of large conical tubercles, situated between the two rows of eyes. There is also a small tubercle on each side behind the anterior lateral eyes and a single smaller tubercle between the anterior median eyes. The front lateral eyes are the largest of the group and set at a higher level than the front medians, which are the smallest. Viewed from above the hind row is straight. Its eyes are equidistant and of the same size. The chelicerae are brown with a yellowish patch in front. At the base they are somewhat convex and have a small conical tubercle bearing an inwardly pointing spine. A number of other smaller tubercles are also present on the convex part. The fang is well curved. The furrow has a scopula and two teeth on each margin. The maxillae, labium and sternum are yellowish brown. The labium is more than half the length of the maxillae and is rounded at the apex. The sternum is broadly ovoid, pointed behind, flat, shining and lightly clothed with short yellowish hairs that are directed forward. The legs are yellowish brown with patches of pale yellow. They are furnished with numerous tubercles especially above the patellae, tibiae and metatarsi. Below the tibiae and metatarsi of the first and second pairs of legs is a double row of spines. Two tarsal claws and weak claw-tufts are present. The claws of the first pair of legs are dissimilar, the proclaw having ten teeth and the retroclaw three. The abdomen is somewhat narrowed in front and the anterior margin notched in the middle. Towards the posterior it becomes broader. The hind end is rounded. The dorsal surface is mainly brown in colour with some yellow patches. There are three pairs of large sigilla and numerous ridges, wrinkles and tubercles. The latter are much larger at the posterior end than elsewhere. All the tubercles have short clavate spines. The ventral surface and spinnerets are dull brownish yellow and clothed with short coarse black hairs. The epigynum has the form shown in text-fig. 181.

The adult male is about 6.0 mm. in body-length and resembles the female in appearance. However, the spines below the tibiae and metatarsi of the first two pairs of legs are longer and more slender than in the female. The form of the palp is shown in text-fig. 182.

Mature males and females occur during summer and are sometimes found together in January. Nothing appears to be known concerning the habits of this spider.

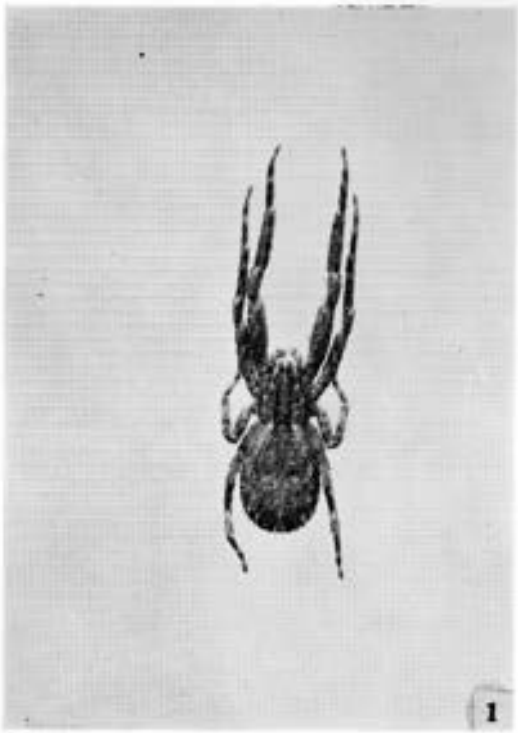


PLATE XVIII.

Fig. 1.—*Stephanopis cambridgei*, female.
Fig. 2.—*Stephanopis lata*, female.
Fig. 3.—*Stephanopis scabra*, female.
Fig. 4.—Male and female of *Stephanopis scabra* on a piece of bark.

ABDOMEN.—The second of the two major divisions of a spider's body.
APOPHYSIS.—A projecting process on an appendage.
BOSS.—A small basal swelling on the outer surface of the chelicerae of some spiders.
CALAMISTRUM.—A single or double row of curved bristles on the fourth metatarsi of spiders having a cribellum.
CARAPACE.—The dorsal covering of the cephalothorax.
CEPHALOTHORAX.—The first of the two major divisions of a spider's body. It bears the six pairs of appendages.
CERVICAL GROOVE.—A groove between the head region and the thoracic region of the cephalothorax.
CHELICERAE.—The paired appendages in the front of the body. They are used in biting and in capturing prey.
CLAVATE.—Club-shaped.
CLYPEUS.—The part of the carapace between its front margin and the eyes.
COLULUS.—A short conical process immediately in front of the spinnerets in some spiders.
COMB.—A row of serrated bristles below the fourth tarsi of spiders belonging to the family Theridiidae.
COXA.—The basal segment of an appendage of the cephalothorax.
CRIBELLUM.—A perforated plate-like spinning organ, either entire or divided into two, situated in front of the spinnerets of certain spiders.
DIAXIAL.—A term applied to chelicerae in which the fangs move in a plane more or less transverse to the plane of symmetry of the body.
EMBOLUS.—A slender apical extension of the genital bulb in the palp of mature male spiders.
ENDITE.—A plate-like lobe on the coxa of the palp and usually called the maxilla or maxillary lobe.
EPIGASTRIC FURROW.—A transverse furrow on the lower surface of the abdomen.
EPIGYNUM.—A chitinized structure in front of the genital aperture in many female spiders.
FANG.—The slender piercing apical segment of the chelicera. The poison duct opens near its distal end.
FEMUR.—The third segment of a leg or palp.
FOLIUM.—A triangular or leaf-shaped pattern on the dorsal surface of the abdomen of some spiders, especially the orb-weavers.
FOVEA.—A small pit or depression near the middle of the carapace.
GENICULATE.—Knee-like in shape.
LABIUM.—A median conical or flat structure immediately in front of the sternum and between the maxillary endites.
LATERAL CONDYLE.—See 'boss'.
LUNG-SLITS.—The external openings of the lungs.
MAXILLA.—The coxal segment of the palp and more particularly its lobe or endite.
MEDIAN OCULAR AREA.—The space limited by the four median eyes.
METATARSUS.—The sixth segment of a leg.
MYGALOMORPH.—Having the form of a Mygale. The term is applied to trap-door and funnel-web spiders.
OCULAR QUADRANGLE.—See 'median ocular area'.
PALPS OR PALPI.—The second pair of appendages of the cephalothorax. They are situated immediately in front of the first pair of legs.
PARACYMBIUM.—A curved basal process of the tarsus in the palps of some mature male spiders.
PARAXIAL.—A term applied to chelicerae in which the fangs move in a plane more or less parallel to the plane of symmetry of the body.
PATELLA.—The fourth segment of a leg or palp.
PEDICLE OR PEDICEL.—The narrow connection between the cephalothorax and abdomen.
PEDIPALPS OR PEDIPALPI.—See 'Palps or palpi'.
PROCURVED.—Arranged in a curved line with the concavity of the curve towards the front.
PROLATERAL.—On the anterior side of an appendage held at right-angles to the body.
PROMARGIN.—The edge of the cheliceral furrow nearer the front.
RASTELLUM.—A group of short, stout spines on the proximal segment of the chelicerae and above the base of the fang. Present in some trap-door spiders.
RECURVED.—Arranged in a curved line with the concavity of the curve towards the posterior.
RETROLATERAL.—On the posterior side of an appendage held at right-angles to the body.
RETROMARGIN.—The edge of the cheliceral furrow nearer the posterior.
SCOPULA.—A brush of short hairs.
SERRULA.—A finely toothed ridge on the distal margin of the maxillary endite.
SIGILLA.—Oval or round depressions marking the attachment of muscles. Also called muscle spots.
SPINNERETS.—The external spinning organs situated at or near the posterior end of the abdomen. Usually six or four in number.

SPIRACLE.—The opening of tracheal tube or lung to the exterior. In the case of a lung the the opening is also called a lung-slit.

STABILIMENTUM.—A band of denser silk in the webs of some orb-weaving spiders.

STERNUM.—The median ventral plate on the underside of the cephalothorax and surrounded by the coxae.

TARSUS.—The distal segment of a leg or palp.

TRICHOBOTHRIA.—Fine erect sensory hairs rising from sockets on certain segments of the legs or palps, and thought to have an acoustic function.

TROCHANTER.—The second segment of a leg or palp.

TUBERCLE.—A low rounded projection.

REFERENCES

BAUM, J., 1937.—On the habits of the Australian Spider *Dinopis subrufus* L. Koch. *Vest. cesk. zool. Spol.*, 5, pp. 28-33, 4 pl.

CAMBRIDGE, O. P., 1869.—Descriptions and sketches of some new species of Araneida, with characters of a new genus. *Ann. Mag. Nat. Hist.*, (4) 3, pp. 52-74, pl. IV-VI.

CLERCK, C., 1757.—Svenska Spindlar (Aranei Suecici). *Stockholmiae*, pp. 1-154, 6 pls.

DALMAS, R. de, 1917.—Araignées de Nouvelle-Zélande. *Ann. Soc. ent. France*, 86, pp. 317-430.

DONDALE, C. D., 1966.—The spider fauna (Araneida) of deciduous orchards in the Australian Capital Territory. *Aust. J. Zool.*, 14, pp. 1157-1192, figs. 1-9.

FORSKÅL, P., 1775.—Descriptiones animalium etc. *Hauniae*, pp. 85-86.

FUESSLIN, J. C., 1775.—Verzeichniss der ihm bekannten schweizerischen Insecten. *Zurich und Winterthur*, pp. 1-62, one plate.

GERTSCH, W. J., 1958.—The spider family Hypochilidae. *Amer. Mus. Novitates*, No. 1912, pp. 1-28, 50 fig.

HICKMAN, V. V., 1927.—Studies in Tasmanian spiders. Part I. *Pap. Roy. Soc. Tasm.*, 1926, pp. 52-86, 20 fig. pl. IV-X.

———, 1928.—Studies in Tasmanian spiders. Part. II. *Pap. Roy. Soc. Tasm.*, 1927, pp. 158-175, 8 fig. pl. XXI-XXVI.

———, 1929.—Studies in Tasmanian spiders. Part. III. *Pap. Roy. Soc. Tasm.*, 1928, pp. 96-118, 9 fig., pl. XV-XVII.

———, 1930.—Studies in Tasmanian spiders. Part IV. *Pap. Roy. Soc. Tasm.*, 1929, pp. 87-122, 19 fig., pl. XIX-XXVI.

———, 1950.—Araneae from Reevesby Island, South Australia. *Proc. Roy. Soc. Victoria*, LX (N.S.), pp. 1-16, 16 fig.

HIGGINS, E. T. & PETTARD, W. F., 1883.—Description of a new cave-inhabiting spider. *Pap. Roy. Soc. Tasm.*, 1882, pp. 191-192.

HOGG, H. R., 1902.—On some additions to the Australian spiders of the suborder Mygalomorphae. *Proc. Zool. Soc. Lond.*, 1902 (2), pp. 121-142, fig. 22-27, pl. XIII.

———, 1903.—On the Australian Spiders of the subfamily Sparassinae. *Proc. Zool. Soc. Lond.*, 1902 (2), pp. 414-466, 20 fig.

———, 1905.—On some South Australian spiders of the family Lycosidae. *Proc. Zool. Soc. Lond.*, 1905 (2), pp. 569-590.

KARSCH, F., 1878.—Exotischaraneologisches. *Zeits. gesam. Naturw.*, 51, pp. 323-333, 771-826, pl. IX.

KEYSERLING, E., 1882.—Die Arachniden Australiens. Nürnberg, 1882, pp. 1325-1420.

———, 1887.—Die Arachniden Australiens II, 35 & 36 part. Nürnberg, 1887, pp. 153-232.

———, 1890.—Die Arachniden Australiens II, 37 part. Nürnberg, 1890, pp. 233-274.

KOCH, C. L., 1839.—Die Arachniden, Fünfter Band. Nürnberg, 1839, pp. 1-158, pl. CXLV-CLXXX.

———, 1842.—Die Arachniden. Neunter Band. Nürnberg, 1842, pp. 1-108, pl. CCLXXXIX-CCCXXIV.

KOCH, L., 1865.—Beschreibungen neuer Arachniden und Myriopoden. *Verh. zool-bot. Ges. Wien*, 15, pp. 857-892.

———, 1866.—Die Arachniden-Familie der Drassiden. Hefte 1-6. Nürnberg, 1866, pp. 1-304, pl. I-XII.

———, 1867.—Beschreibungen neuer Arachniden und Myriopoden. *Verh. zool-bot. Ges. Wien*, 17, pp. 173-259.

———, 1871.—Die Arachniden Australiens. Nürnberg, 1871, pp. 1-104.

———, 1872.—Die Arachniden Australiens. Nürnberg, 1872, pp. 105-368.

———, 1873.—Die Arachniden Australiens. Nürnberg, 1873, pp. 369-472.

———, 1874.—Die Arachniden Australiens. Nürnberg, 1874, pp. 473-576.

———, 1875.—Die Arachniden Australiens. Nürnberg, 1875, pp. 577-740.

———, 1878.—Die Arachniden Australiens. Nürnberg, 1878, pp. 969-1044.

———, 1879.—Die Arachniden Australiens. Nürnberg, 1879, pp. 1045-1156.

LEVI, H. W., 1959.—The spider genus Latrodectus (Araneae, Theridiidae). *Trans. Amer. Microscop. Soc.*, LXXVIII (1), pp. 7-43, fig. 1-83.

LEVI, H. W. & LEVI, L. R., 1962.—The genera of the spider family Theridiidae. *Bull. Mus. Comp. Zool.*, 127, 1962, pp. 1-71, fig. 1-334.

MAIN, B. Y., 1957.—Biology of Aganippine Trapdoor Spiders (Mygalomorphae: Ctenizidae). *Aust. J. Zool.*, 5, pp. 402-472, pl. 1-6.

MARPLES, J. B., 1962.—The Mutachiinae, a group of cribellate spiders. *Journ. Linn. Soc. Lond., Zoology*, XLIV, No. 301, 1962, pp. 701-720, fig. 1-6.

MARPLES, R. R., 1959.—The Dictynid spiders of New Zealand. *Trans. Roy. Soc. New Zealand*, 87, pp. 333-361, 3 fig.

MENGE, A., 1866.—Preussische Spinnen, *Schr. naturf. Ges. Danzig.* (N. F.) 1, pp. 1-152, pl. I-XXVIII.

MURGRAVE, A., 1948.—A catalogue of Tasmanian Spiders. *Rec. Queen. Vict. Mus.*, II, 2, 1948, pp. 75-91.

———————, 1960.—Spiders harmful to man. The Australian Museum, Leaflet No. 16, 1950, pp. 1-13.

PETRUNKEVITCH, A., 1955.—Arachnida in Treatise on Invertebrate Paleontology, edited by R. C. Moore, Part P, Arthropoda 2, pp. P42-P162. (Geological Society of America and University of Kansas Press).

POCOCK, R. I., 1902.—On the marine spiders of the genus *Desis* with descriptions of a new species. *Proc. Zool. Soc. Lond.*, 1902 (2), pp. 98-106, 1 fig.

RAINBOW W. J., 1900.—Descriptions of some new Araneidae from New South Wales, No. 9, *Proc. Linn. Soc. N.S.W.*, 25, pp. 483-494, pl. XIII-XIV.

———————, 1911.—A census of Australian Araneidae. *Rec. Aust. Mus.*, IX (2), 1911, pp. 1-107.

ROBERTS, N. L., 1955.—The Australian Netting Spider, *Deinopis subrufus*. *Proc. Roy. Zool. Soc. N.S.W.*, 1953-54, pp. 24-33, figs. 1-5.

SIMON, E., 1893.—Etudes arachnologiques. 25e Mémoire. XL. Descriptions d'espèces et de genres nouveaux de l'ordre des Araneae. *Ann. soc. ent. France*, 62, pp. 299-330, pl. VII.

———————, 1895.—Etudes arachnologiques. 26e Mémoire. XLI. Descriptions d'espèces et de genres nouveaux de l'ordre des Araneae. *Ann. soc. ent. France*, 64, pp. 131-160.

———————, 1898.—Descriptions d'Arachnides nouveaux des familles des Agelenidae, Pisauridae, Lycosidae et Oxyopidae. *Ann. soc. ent. Belg.*, 42, pp. 5-34.

———————, 1899.—Ergebnisse einer Reise nach dem Pacific (Schauinsland) 1896-1897. Arachnoideen. *Zool. Jahrb. Syst.*, 12, pp. 411-437.

———————, 1902.—Descriptions de quelques Arachnides nouveaux de la section des Cribellatés. *Bull. soc. ent. France*, 1902 (15), pp. 240-243.

———————, 1903.—Descriptions d'Arachnides nouveaux. *Ann. soc. ent. Belg.*, 47, pp. 21-39.

———————, 1909.—Araneae in Die Fauna Südwest-Australiens, 2 (13), Jena, 1909, pp. 155-212. Fig. 1-14.

SOUTHCOTT, R. V., 1961.—Red-back Spider Bite (Latrodectism) with response to antivenene therapy given eighty hours after the injury. *Med. J. Aust.*, 1961, pp. 658-662.

THORELL, T., 1859.—Nya exotiska Epeirider. *Öfvers. Kongl. Vet. Akad. Förh.*, 16, pp. 299-304.

———————, 1870.—Araneae nonnullae Novae Hollandiae descriptae. *Öfvers. Kongl. Vet. Akad. Förh.*, 27 (4), pp. 367-389.

URQUHART, A. T. 1884.—On the spiders of New Zealand. *Trans. N. Zeal. Inst.*, 17, pp. 31-53, pl. IX-XI.

———————, 1893.—On new species of Tasmanian Araneae. *Pap. Roy. Soc. Tasm.*, 1892, pp. 94-139.

WALCKENAER, C. A., 1805.—Tableau des Aranéides. Paris 1805, pp. I-XII, 1-88, 1 tab., 9 pl.

———————, 1841.—Histoire naturelle des Insectes. Aptères. Paris, 1837-1847, 4 vols.

INDEX TO SPECIES

Anome pera 18
Arachnura higginsi (The tailed spider) .. 60
Araneus bradleyi 82
Araneus heroine 65
Araneus pustulosus 64
Arbanitis annulipes 16
Arbanitis tasmanica 14
Argiope trifasciata 59
Ariadna segmentata 41
Atrax venenatus (The funnel-web spider) .. 29
Bathyphantes quindecimpunctata 52
Bavia ludicra 85
Breda jovialis 87
Celaenia excavata (The bird-dung spider) .. 66
Chiracanthium stratioticum 94
Clubiona elaphines 95
Cyclosa trilobata 60
Delena cancerides (The huntsman spider) .. 99
Desis kenponae 72
Dinopis subrufa 29
Dolomedes australianus 82
Dysdera crocata 39
Euryopis elegans 49
Gasteracantha minax 68
Hemicloea tasmani 89
Heteromigas dovei 23
Hexathele montana 18
Hickmania troglodytes (The cave spider) .. 26
Ixeuticus candidus 33
Ixeuticus martius 32
Ixeuticus robustus 31
Lampona cylindrata 90
Latrodectus hasselti (The red-back spider) 44
Lycosa simsoni 80
Lycosa tasmanica 79
Migas nitens 22
Mimetus audax 50
Miturga agelenina 97
Nicodamus bicolor 74
Olios diana 101
Olios patellatus 103
Oxyopes mundulus 77
Paramatachia tubicola 34
Pholcus phalangioides 41
Phonognatha melania 56
Plexippus validus 84
Rubrius milvinus 69
Steatoda livens 46
Stephanopis cambridgei 105
Stephanopis lata 105
Stephanopis scabra 107
Stiphidium facetum 36
Tegenaria domestica 71
Tetragnatha valida 65
Theridion properum 48
Trachycosmus sculptilis 91
Zachria spencerí 100